

The Examiner requested that detailed arguments in this regard be presented in the response to the Office Action. Said arguments are presented below.

Again, Applicants thank the Examiner for kindly participating in the telephonic interview.

Rejections Under 35 U.S.C. § 102(e)/103(a)

The rejection of claims 1-5, 12, 13, 17 and 18 under 35 U.S.C. § 102(e) as being anticipated by Lovett et al. (U.S. Patent No. 6,881,419, hereafter “Lovett”),

as well as the rejection of claims 1-5, 12, 13, 17 and 18 under 35 U.S.C. § 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over Lovett, are respectfully traversed.

The Position of the Examiner

The Examiner takes the position that Lovett teaches that Vitamin D₃, calcium and soy isoflavones (which the Examiner states inherently contain compounds such as genistein and daidzein) are in the same composition. The Examiner asserts that it is inherent that the same amount of genistein and daidzein are used as in the claims since such compounds are inherently found in soy.

In response to Applicants’ arguments that Lovett does not teach the claimed ratios of isoflavones, the Examiner states that the cited USDA-Iowa State University Database (hereafter “USDA 1999”) shows that soy fiber has 18.8 daidzein, 21.68 genistein and a total isoflavone content of 44.43. The Examiner asserts that this means that the daidzein and the genistein are already in a ratio of 1.15 inherently, and that 91% is the total weight of genistein and daidzein inherently (for total isoflavone content) in the soy.

Additionally, the Examiner indicates that Applicants have not explained how 83.6 % soy isoflavones in USDA 1999 was calculated. [Applicants provide this explanation in detail below.]

Further, in the anticipation/obviousness rejection, the Examiner states that even if the claimed soy isoflavones are not identical to the reference soy isoflavones with regard to some unidentified characteristics, the differences between that which is disclosed and that which is claimed are considered to be so slight that the referenced soy isoflavones are likely to inherently possess the same characteristics of the claimed soy isoflavones.

Applicants' Arguments

Applicants respectfully traverse the Examiner's positions for the following reasons.

The subject matter of Applicants' claim 1

Applicants' claim 1 requires an oral composition for alveolar bone resorption inhibition and periodontal membrane loss inhibition, comprising a soy isoflavone aglycone, calcium and vitamin D₃; wherein the soy isoflavone aglycone is obtained from or in an extract from whole-grain soy; the genistein/daidzein weight ratio in the soy isoflavone aglycone is in the range of 1/1 to 1.5/1, and the proportion of the total weight of genistein and daidzein in the soy isoflavone aglycone is at least 90%.

Lovett, with USDA 1999 as evidence, fails to teach proportion of 91%

As discussed above, the Examiner takes the position that the reference inherently teaches the same amount of genistein and daidzein as in the claims, since such compounds are inherently found in soy. Additionally, the Examiner looks to USDA 1999 as teaching that soy fiber has 18.8 diadzein, 21.68 genistein, and a total isoflavone content of 44.43. Accordingly, the Examiner asserts that $21.68 \text{ genistein} / 18.8 \text{ diadzein} = 1.15/1$, and thus falls within Applicants' recited ratio. Further, the Examiner alleges that the proportion of genistein and diadzein in the soy isoflavone aglycone is 91%. This number was determined by the following calculation:

$$(18.8 \text{ diadzein} + 21.68 \text{ genistein}) / 44.43 \text{ total isoflavone content} = 91\%.$$

However, as asserted in the previous response, there is a mistake in USDA 1999. Specifically, glycitein is also an isoflavone, and accordingly should be included in the total isoflavone content for the above calculation. Accordingly, the proportion of genistein and diadzein in the soy isoflavone aglycone is actually 83.7%. This value was determined by the following calculation:

$$(18.8 \text{ g} + 21.68 \text{ g}) / (18.8 + 21.68 + 7.90 \text{ glycitein}) (\text{total isoflavone content}) = 83.7\%.$$

Thus, even if it were appropriate to rely upon USDA 1999 as support, the teachings of Lovett do not teach each and every limitation of Applicants' claims, as is required for anticipation. Specifically, Lovett (with USDA 1999 as support), fails to teach Applicants' recited limitation that the proportion of the total weight of genistein and daidzein in the soy isoflavone aglycone is at least 90%.

USDA 1999 fails to teach amount of aglycone

Furthermore, USDA 1999, as relied upon by the Examiner, does not show the amount of aglycone, and thus its use as evidence in the prior art rejections is inappropriate.

Enclosed herewith are copies of the USDA database reference, released as 1.4 (April 2007) (hereafter "USDA 2007"), and 2.0 (September 2008) (hereafter "USDA 2008"). USDA 2007 states in the third paragraph of the Documentation section, "we have converted the values for glucoside forms into aglycone (free) forms by using appropriate ratios of molecular weights and have added them to their respective free form values to generate mean values for each aglycone form: Daidzein, Genistein and Glycitein." [The first paragraph of the Methods and procedures for generating the database section on page 1 of USDA 2008 provides similar information.]

Thus, the values shown in the USDA references are a sum of glucoside forms and aglycone (free) forms. Thus, USDA 1999 fails to show the amount of aglycone (free) forms.

Applicants recognize that the USDA reference relied upon the Examiner is dated 1999. However, page ii of USDA 2007 states, "Following the release of 'USDA-Iowa State University Database on the Isoflavone Content of Foods' in 1999, we have made a number of minor updates. They are . . ." Applicants note that these updates do not involve the "Documentation" portion,

nor do they involve the values for “soy fiber”, as relied upon by the Examiner. Additionally, the values for “soy fiber” in USDA 2007 are identical to those in USDA 1999, as relied upon by the Examiner. Thus, reliance on USDA 2007 for the Documentation section is appropriate in this situation.

Applicants’ recited limitations are not inherent in teachings of Lovett

Contrary to the Examiner’s position, Applicants respectfully assert that, not only is Applicants’ recited genistein/daidzein weight ratio not inherent, the genistein/daidzein weight ratio in the soy isoflavones cannot fall within the recited range of 1/1 to 1.5/1.

As is clear from the following Table, (previously presented in the Amendment filed September 16, 2008), it is known that both Soybean and Hypocotyl contain an amount of daidzein that is more than twice that of genistein.

	Aglycon			Glycoside or its derivatives		Total isoflavones (C)	(A+B)/C
	Daidzein (A)	Genistein (B)	A+B	Daidzin etc.	Genistin etc.		
Soybean	52	28	80	861	735	1789	0.04
Hypocotyl	1020	350	1370	7430	3670	21850	0.06

* The values are calculated in mg/kg.

Therefore, contrary to the Examiner’s assertion that Applicants’ recited ratio is inherent, the genistein/daidzein weight ratio in isoflavone extruded from soy beans, without any treatment such as that conducted by Applicants’, will never be 1/1 to 1.5/1. MPEP 2112 (IV) states, “[i]n relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.’ *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).” In this case, Applicants have provided evidence that the allegedly inherent characteristic, i.e., the ratios and proportions, does not necessarily flow from the teachings of the applied prior art. Specifically, as Applicants have provided evidence that the genistein/daidzein weight ratio in isoflavones extruded from soy beans is not always 1/1 to 1.5/1.

Applicants' claimed invention is not obvious from the teachings of Lovett

As stated above, the Examiner states that even if the claimed soy isoflavones are not identical to the reference soy isoflavones with regard to some unidentified characteristics, the differences between that which is disclosed and that which is claimed are considered to be so slight that the referenced soy isoflavones are likely to inherently possess the same characteristics of the claimed soy isoflavones.

Initially, the Examiner has provided no support for the assertion that the differences are so slight that the isoflavones are likely to possess the same characteristics. Furthermore, as shown in the above table, the ratio of genistein/diadzein is 0.54/1 in soybean. This is clearly quite different from Applicants' recited ratio of 1.1 to 1.5/1. Thus, the Examiner's rationale for the obviousness rejection, i.e., "slight" differences, is untenable.

Summary

Applicants' claimed oral composition is neither anticipated nor obvious from the teachings of Lovett, even if taken with USDA 1999 as support. Furthermore, even a skilled artisan would not have easily predicted the effects achieved by Applicants' oral composition, i.e., preventing or treating gingival recession, and preventing or treating alveolar bone resorption and periodontal membrane loss.

For these reasons, the invention of Applicants' claims is clearly patentable over the cited references.

Conclusion

Therefore, in view of the foregoing remarks, it is submitted that each of the grounds of rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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USDA-Iowa State University Database on the Isoflavone Content of Foods

Release 1.4

Prepared by the

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April 2007

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ERRATA

Following the release of "USDA-Iowa State University Database on the Isoflavone Content of Foods" in 1999, we have made a number of minor updates. They are:

- Release 1.1 contains a few minor corrections to descriptions for infant formulas.
- Release 1.2 contains corrections to the values for formononetin and biochanin A in red clover.
- Release 1.3 contains corrections to one infant formula and adds data for another.
- Release 1.4 contains corrections to the values for soybean butter, soy flour, full fat, roasted; soybeans, immature seeds, raw (Edamame); and soybeans, mature seeds, dry roasted (soy nuts).

We have recently issued the corrected version as "USDA-Iowa State University Database on the Isoflavone Content of Foods, Release 1.4". If you have downloaded an earlier release before April 18, 2007, we recommend that you replace it with **Release 1.4**.

Documentation

The development of the database for Isoflavones, one of the families of phytoestrogens, in foods was a collaborative effort between the Food Composition Laboratory (FCL), and the Nutrient Data Laboratory (NDL) of ARS/USDA and the Department of Food Science and Human Nutrition of the Iowa State University (ISU). Many scientists are interested in isoflavones because of their weak estrogenic and other biological properties. The main dietary sources of isoflavones are soybeans and soyfoods. Some other food legumes contain very small amounts of isoflavones.

Data for isoflavone contents of foods were collected from scientific articles published in refereed journals. In addition, isoflavones data were generated by extensive sampling of soy-containing foods and subsequent analysis at the Iowa State University. Data for only the most prominent isoflavones, Daidzein, Genistein, Glycitein and their glucosides were evaluated using the expert system described by Mangels, et al (J. Am. Diet. Assoc. 93:284-296, 1993) for five general categories: analytical method, analytical quality control, number of samples, sample handling and sampling plan. The analytical method described by Murphy, et al (J. Agric. Food Chem. 45:4635-4638, 1997) was used as the reference method for evaluating analytical methodologies in the published articles. Although acid addition to extraction solvent and use of internal standard to adjust analytical errors due to work-up procedures are highly recommended, only few studies have used these procedures. Since this is the first database on isoflavones, the methodology criteria for inclusion in the database were relaxed so as to include as many foods as possible.

The glucoside forms of the isoflavones are converted to free forms (aglycone) to be absorbed by the gut and exert their potentially protective effects (Murphy, et al, J. Agric. Food Chem. 45:4635-4638, 1997). Therefore, we have converted the values for glucoside forms into aglycone (free) forms by using appropriate ratios of molecular weights and have added them to their respective free form values to generate mean values for each aglycone form: Daidzein, Genistein and Glycitein. Simple addition of free and glucoside forms of isoflavone concentrations without this correction will overestimate true isoflavone aglycone concentration by almost a factor of two (Wang and Murphy, J. Agric. Food Chem. 42:1666-1673, 1994; 44:2377-2383, 1996).

Values expressed on a dry weight basis were converted to wet weight basis either by using given moisture content or by assuming commonly expected moisture content for that particular food. The table contains mean values, standard errors of the means (SEM), minimum (Min) and maximum (Max) values for individual aglycone forms: Daidzein, Genistein and Glycitein and the total isoflavone content. The totals are given if values were available for at least Daidzein and Genistein. The values for total isoflavones may not agree with the simple addition of the mean individual values. Several articles did not report Glycitein values. Glycitein contributes about 5%-10% to the total content. For example: soy flour full fat (NDB No. 16115), daidzein mean was calculated from 20 values (#S), genistein mean from 21 values, glycitein mean from 7 values, and total isoflavones mean from 20 values. Reiml and Block (Nutr. Cancer 26:123-148, 1996)

summarized values for daidzein and genistein available prior to 1996. However, values for glycitein were not included because of the lack of data on the estrogenic activity of glycitein. Preliminary evidence suggests that glycitein has as potent an estrogen activity as daidzein and genistein (Song et al, J. Agric. Food Chem, 1999 In press). Each mean is assigned a Confidence Code (CC) of a, b, or c. The Confidence code is an indicator of relative quality of the data and the reliability of a given mean value. A confidence Code of "a" indicates considerable reliability, due either to a few exemplary studies or to a large number of studies of varying quality.

The user is reminded that the variety, the crop year and the location affect the isoflavone contents of the soybeans (Wang and Murphy, J. Agric. Food Chem. 42:1674-1677,1994) and contribute to the large variability in the isoflavone contents of soybeans, as well as, soyfoods. The soybean varieties, therefore, were divided into 'food quality' (NDB no.16108) and 'commodity grade' (NDB no. 99091) for U.S. varieties, Japanese (NDB no. 99092) and Korean (NDB no. 99093) varieties were also separated from the U.S. varieties. The method of extracting proteins (alcohol vs aqueous) in the processing of various soy products also affects the isoflavone contents; alcohol extraction reducing the contents significantly.

The isoflavone database is typical of small data sets which can be developed for food components of recent scientific interest. A review of the numbers of studies which contributed acceptable data reveals that for most foods, one study contributes the values for each isoflavone. For example, daidzein values for 73 foods were derived from single studies. It should be noted that one study may have reported values for one or more foods. Furthermore, a single study may have analyzed multiple samples for a single food.

Coumestrol (the most common coumestan), though not an isoflavone, has a similar structure and competes with estradiol for cytoplasmic receptors in mammary tumor cells. Biochanin A and formononetin, 4-methyl ether derivatives of genistein and daidzein respectively, are reduced to genistein and daidzein by the gut bacteria. These three compounds share the estrogenic/antiestrogenic, antioxidant and antiproliferative activities of the prominent isoflavones (Mazur et al. Anal. Biochem. 233(2):169-180, 1996). Very few articles contained values for these three compounds. Therefore a separate table for their contents in foods was prepared.

The completed database contains three files;

1. Isfl_table (isoflavone_table) is the table of analytical isoflavone values.
2. Isfl_ref (isoflavone_references) is a list of references/studies from which isoflavone values were obtained
3. CBF_table is the table of analytical Coumestrol, BiochaninA and Formononetin values.

Isfl_table - Analytical Isoflavone Values for Foods

Isfl_table contains isoflavone values for 128 foods.

The fields in the table are as follows:

NDB	USDA Nutrient Data Bank Number ¹
Desc	Food description
NutrDesc	Name of the isoflavone
Dein	Daidzein
Gein	Genistein
Glein	Glycitein
Total Isofl.	Isoflavone total ²
Mean	Mean value (mg/100g edible portion)
SEM	Standard error of the mean
#S	Number of means/individual values ³
Min	Minimum value (mg/100g edible portion)
Max	Maximum value (mg/100g edible portion)
CC	Confidence Code ⁴
Reference. No.	Reference(s) from which isoflavone values were obtained ⁵

Footnotes:

¹The NDB number is a five-digit numerical code used in the USDA Nutrient Database for Standard Reference, the electronic version of Agriculture Handbook No. 8, which can be downloaded from this site. Foods in the Isoflavone Database which do not have corresponding entries in the USDA Nutrient Database for Standard Reference, are given tentative NDB numbers starting with '99---'. For more information on these files contact the Nutrient Data Laboratory, 4700 River Road, Unit 89, Riverdale, MD 20737. Tel. 301-734-8491.

² Values in the Total isoflavones column may not agree with the simple additions of the mean individual isoflavone values. Several articles did not report Glycitein values. Glycitein contributes only about 5% to 10% of the total content. Therefore if an article reported values for at least Daidzein and Genistein, then the total value for that food was calculated.

³#S is the total number of means/individual values used to compute the data in the Isoflavones Database. In the scientific literature each value can be a mean of many values (depending on the number of samples used in the study) or an individual value. Furthermore there may be more than one value for a single food in one reference. As a result, the total number of references may not equal #S. Since the data have been compiled from various sources, #S does not necessarily equal "n" in statistical terms.

⁴The Confidence Code designated as a, b, or c is a general indicator of the quality of the data (a=best). The procedure for determining confidence codes is described in Mangels, et al. (J. Am. Diet. Assoc. 93:284-296, 1993).

⁵Documentation for each reference can be found in the Isfl_ref file.

This work was partially supported by a grant from the U.S. Army Medical R & D Command (MM 4529EVM).

CBF_tbl - Analytical Coumestrol, Biochanin A, Formononetin values for Foods

CBF_tbl contains individual values for Coumestrol, Biochanin A and Formononetin for 41 foods. The fields in this table: NDB, and Ref. No. are the same as in the file, Isfl_tbl.

Isfl_ref - Isoflavones References

Isfl_ref provides a list of 38 references from which values for the Isoflavones Database were obtained. The reference numbers from the reference file correspond with the Ref. No. Column. All references list authors, title, journal citation and the foods and isoflavones analyzed.

(Units = mg/100 g edible portion for Mean, Standard error of the mean (SEM), Min, and Max; #S = the total number of means/individual values; CC=Confidence code)

NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
99001	9-grain bread	Daidzein	0.01		1	0.01	0.01	c	19
		Genistein	0.01		1	0.01	0.01	c	19
		Total Isofl.	0.02		1	0.02	0.02	c	19
11001	Alfalfa seeds, sprouted, raw	Daidzein	0.00		2	0.00	0.00	b	11, 21
		Genistein	0.00		2	0.00	0.00	b	11, 21
		Glycitein	0.00		1	0.00	0.00	c	21
		Total Isofl.	0.00		2	0.00	0.00	b	11, 21
		Daidzein	0.00		1	0.00	0.00	c	21
		Genistein	0.00		1	0.00	0.00	c	21
		Glycitein	0.00		1	0.00	0.00	c	21
		Total Isofl.	0.00		1	0.00	0.00	c	21
16104	Bacon, meatless	Daidzein	2.80		1	2.80	2.80	c	36
		Genistein	6.90		1	6.90	6.90	c	36
		Glycitein	2.40		1	2.40	2.40	c	36
		Total Isofl.	12.10		1	12.10	12.10	c	36
		Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	0.00		1	0.00	0.00	c	11
		Total Isofl.	0.00		1	0.00	0.00	c	11
		Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	0.00		1	0.00	0.00	c	11
16014	Beans, black, mature seeds, raw	Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	0.00		1	0.00	0.00	c	11
		Total Isofl.	0.00		1	0.00	0.00	c	11
16024	Beans, great northern, mature seeds, raw	Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	0.00		1	0.00	0.00	c	11
		Total Isofl.	0.00		1	0.00	0.00	c	11
16028	Beans, kidney, all types, mature seeds, cooked, boiled, without salt	Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	0.00		1	0.00	0.00	c	11
		Total Isofl.	0.00		1	0.00	0.00	c	11
16027	Beans, kidney, all types, mature seeds, raw	Daidzein	0.02		2	0.01	0.02	b	17
		Genistein	0.04		2	0.02	0.06	b	17
		Total Isofl.	0.06		2	0.03	0.08	b	17

(Units = mg/100 g edible portion for Mean, Standard error of the mean (SEM), Min, and Max; #S = the total number of means/individual values; CC=Confidence code)

NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
16033	Beans, kidney, red, mature seeds, cooked, boiled, without salt	Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	0.00		1	0.00	0.00	c	11
		Total Isofl.	0.00		1	0.00	0.00	c	11
16032	Beans, kidney, red, mature seeds, raw	Daidzein	0.01		1	0.01	0.01	c	17
		Genistein	0.00		1	0.00	0.00	c	17
		Total Isofl.	0.01		1	0.01	0.01	c	17
16037	Beans, navy, mature seeds, raw	Daidzein	0.01		2	0.00	0.01	c	11, 17
		Genistein	0.20		2	0.00	0.41	c	11, 17
		Total Isofl.	0.21		2	0.00	0.42	c	11, 17
16040	Beans, pink, mature seeds, raw	Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	0.00		1	0.00	0.00	c	11
		Total Isofl.	0.00		1	0.00	0.00	c	11
16042	Beans, pinto, mature seeds, raw	Daidzein	0.01		2	0.00	0.02	c	11, 17
		Genistein	0.26		2	0.00	0.52	c	11, 17
		Total Isofl.	0.27		2	0.00	0.54	c	11, 17
99026	Beans, red, mature seeds, raw	Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	0.31		1	0.31	0.31	c	11
		Total Isofl.	0.31		1	0.31	0.31	c	11
16045	Beans, small white, mature seeds, raw	Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	0.74		1	0.74	0.74	c	11
		Total Isofl.	0.74		1	0.74	0.74	c	11
11053	Beans, snap, green, cooked, boiled, drained, without salt	Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	0.00		1	0.00	0.00	c	11
		Total Isofl.	0.00		1	0.00	0.00	c	11
11052	Beans, snap, green, raw	Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	0.00		1	0.00	0.00	c	11
		Total Isofl.	0.00		1	0.00	0.00	c	11

(Units = mg/100 g edible portion for Mean, Standard error of the mean (SEM), Min, and Max; #S = the total number of means/individual values; CC=Confidence code)

NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
16052	Broadbeans (fava beans), mature seeds, raw	Daidzein	0.02		1	0.02	0.02	c	17
		Genistein	0.00		2	0.00	0.00	c	12, 17
		Total Isofl.	0.03		1	0.03	0.03	c	17
99008	Broadbeans, fried	Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	1.29		1	1.29	1.29	c	11
		Total Isofl.	1.29		1	1.29	1.29	c	11
16056	Chickpeas (garbanzo beans, bengal gram), mature seeds, raw	Daidzein	0.04		2	0.00	0.08	c	11, 17
		Genistein	0.06		2	0.00	0.12	c	11, 17
		Total Isofl.	0.10		2	0.00	0.20	c	11, 17
99009	Clover sprouts, raw	Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	0.35		1	0.35	0.35	c	11
		Total Isofl.	0.35		1	0.35	0.35	c	11
99010	Country rye bread, Finland	Daidzein	0.00		1	0.00	0.00	c	19
		Genistein	0.00		1	0.00	0.00	c	19
		Total Isofl.	0.00		1	0.00	0.00	c	19
16062	Cowpeas, common (blackeyes, crowder, southern), mature seeds, raw	Daidzein	0.01		2	0.00	0.03	c	11, 17
		Genistein	0.02		2	0.00	0.03	c	11, 17
		Total Isofl.	0.03		2	0.00	0.06	c	11, 17
18216	Crackers, crispbread, rye	Daidzein	0.01	0.00	3	0.00	0.01	b	19
		Genistein	0.01	0.00	3	0.00	0.01	b	19
		Total Isofl.	0.01	0.00	3	0.00	0.02	b	19
12220	Flax seed, raw	Daidzein	0.00		1	0.00	0.00	c	19
		Genistein	0.00		1	0.00	0.00	c	19
		Total Isofl.	0.00		1	0.00	0.00	c	19
16173	Fritchick (meatless chicken nuggets), canned, cooked	Daidzein	4.35		1	4.35	4.35	c	21
		Genistein	9.35		1	9.35	9.35	c	21
		Glycine	0.90		1	0.90	0.90	c	21
		Total Isofl.	14.60		1	14.60	14.60	c	21
16172	Fritchick (meatless)	Daidzein	3.45		1	3.45	3.45	c	21

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NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
	chicken nuggets), canned, raw	Genistein	7.90		1	7.90	7.90	c	21
		Glycitein	0.85		1	0.85	0.85	c	21
		Total Isofl.	12.20		1	12.20	12.20	c	21
22125	GREEN GIANT, HARVEST BURGER, Original Flavor, All Vegetable Protein Patties, frozen	Daidzein	2.95		1	2.95	2.95	c	21
		Genistein	5.28		1	5.28	5.28	c	21
		Glycitein	1.07		1	1.07	1.07	c	21
		Total Isofl.	9.30		1	9.30	9.30	c	21
22117	GREEN GIANT, HARVEST BURGER, Original Flavor, All Vegetable Protein Patties, frozen, prepared	Daidzein	2.58		1	2.58	2.58	c	21
		Genistein	4.68		1	4.68	4.68	c	21
		Glycitein	0.95		1	0.95	0.95	c	21
		Total Isofl.	8.22		1	8.22	8.22	c	21
03931	Infant formula, ENFAMIL NEXT STEP, powder, soy formula, not reconstituted	Daidzein	7.23		2	7.15	7.30	b	22, 23
		Genistein	14.75		2	14.50	15.00	b	22, 23
		Glycitein	3.00		2	2.95	3.05	b	22, 23
		Total Isofl.	25.00		2	24.90	25.10	b	22, 23
03863	Infant formula, MEAD JOHNSON, GERBER soy, with iron, powder, not reconstituted	Daidzein	8.08		2	6.50	9.65	b	22, 23
		Genistein	13.90		2	12.80	15.00	b	22, 23
		Glycitein	3.12		2	2.93	3.30	b	22, 23
		Total Isofl.	25.09		2	22.23	27.95	b	22, 23
03824	Infant formula, MEAD JOHNSON, PROSOBEE, with iron, liquid concentrate, not reconstituted	Daidzein	1.10		1	1.10	1.10	c	26
		Genistein	2.22		1	2.22	2.22	c	26
		Total Isofl.	6.03		2	3.32	8.75	c	26, 31
03826	Infant formula, MEAD JOHNSON, PROSOBEE, with iron, powder, not reconstituted	Daidzein	7.05		2	6.90	7.20	b	22, 23
		Genistein	14.94		2	14.45	15.43	b	22, 23
		Glycitein	2.95		2	2.83	3.07	b	22, 23
		Total Isofl.	24.94		2	24.18	25.70	b	22, 23
03823	Infant formula, MEAD JOHNSON, PROSOBEE,	Daidzein	1.71		1	1.71	1.71	c	32
		Genistein	2.18		1	2.18	2.18	c	32

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NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
	with iron, ready-to-feed	Total Isofl.	3.89		1	3.89	3.89	c	32
03843	Infant formula, ROSS, ISOMIL, with iron, powder, not reconstituted	Daidzein	6.03		2	6.03	6.03	b	22, 23
		Genistein	12.23		2	11.43	13.03	b	22, 23
		Glycitein	2.73		2	2.70	2.77	b	22, 23
		Total Isofl.	20.99		2	20.16	21.83	b	22, 23
99112	Infant formula, ROSS, ISOMIL, with iron, powder, reconstituted from powder, as fed	Daidzein	0.78		1	0.78	0.78		39
		Genistein	1.58		1	1.58	1.58		39
		Glycitein	0.35		1	0.35	0.35		39
		Total Isofl.	2.71		1	2.71	2.71		39
03841	Infant formula, ROSS, ISOMIL, with iron, ready-to-feed	Daidzein	1.91		1	1.91	1.91	c	32
		Genistein	2.26		1	2.26	2.26	c	32
		Total Isofl.	4.17		1	4.17	4.17	c	32
03891	Infant formula, WYETH-AYERST, NURSOY, with iron, liquid concentrate, not reconstituted	Daidzein	1.02		2	0.79	1.25	b	22, 26
		Genistein	2.82		2	2.19	3.45	b	22, 26
		Glycitein	0.35		1	0.35	0.35	c	22
		Total Isofl.	4.02		2	2.98	5.05	b	22, 26
03893	Infant formula, WYETH-AYERST, NURSOY, with iron, powder, not reconstituted	Daidzein	5.70		1	5.70	5.70	c	22
		Genistein	13.55		1	13.55	13.55	c	22
		Glycitein	2.05		1	2.05	2.05	c	22
		Total Isofl.	26.00		2	21.30	30.70	b	22, 31
03890	Infant formula, WYETH-AYERST, NURSOY, with iron, ready-to-feed	Daidzein	0.75		1	0.75	0.75	c	23
		Genistein	1.60		1	1.60	1.60	c	23
		Glycitein	0.28		1	0.28	0.28	c	23
		Total Isofl.	2.63		1	2.63	2.63	c	23
99018	Instant beverage, soy, powder, not reconstituted	Daidzein	40.07	6.19	6	29.50	70.00	a	5, 36, 38
		Genistein	62.18	2.78	6	55.00	73.15	a	5, 36, 38
		Glycitein	10.90	0.14	4	10.50	11.10	b	36
		Total Isofl.	109.51	4.11	6	100.10	125.00	a	5, 36, 38
99019	Kala chana, mature seeds,	Daidzein	0.00		1	0.00	0.00	c	11

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NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
	raw	Genistein	0.64		1	0.64	0.64	c	11
		Total Isofl.	0.64		1	0.64	0.64	c	11
99020	Lapacho tea (Tecoma heptaphylla)	Daidzein	0.02		1	0.02	0.02	c	19
		Genistein	0.03		1	0.03	0.03	c	19
		Total Isofl.	0.05		1	0.05	0.05	c	19
16069	Lentils, mature seeds, raw	Daidzein	0.00	0.00	3	0.00	0.01	b	11, 17
		Genistein	0.00	0.00	3	0.00	0.01	b	11, 17
		Total Isofl.	0.01	0.01	3	0.00	0.02	b	11, 17
16072	Lima beans, large, mature seeds, cooked, bottled, without salt	Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	0.00		1	0.00	0.00	c	11
		Total Isofl.	0.00		1	0.00	0.00	c	11
16071	Lima beans, large, mature seeds, raw	Daidzein	0.02		2	0.00	0.04	c	11, 17
		Genistein	0.01		2	0.00	0.01	c	11, 17
		Total Isofl.	0.03		2	0.00	0.05	c	11, 17
16074	Lima beans, thin seeded (baby), mature seeds, raw	Daidzein	0.00		1	0.00	0.00	c	11
		Genistein	0.00		1	0.00	0.00	c	11
		Total Isofl.	0.00		1	0.00	0.00	c	11
16112	Miso	Daidzein	16.13	4.36	7	7.10	36.64	a	5, 15, 21, 36
		Genistein	24.56	4.23	9	11.70	52.39	a	5, 12, 15, 21, 36
		Glycitein	2.87	0.47	3	2.30	3.80	b	21, 36
		Total Isofl.	42.55	9.18	7	22.70	89.20	a	5, 15, 21, 36
99002	Miso soup mix, dry	Daidzein	24.93		2	20.75	29.11	c	5
		Genistein	35.46		2	33.69	37.24	c	5
		Total Isofl.	60.39		2	54.44	66.35	c	5
16080	Mung beans, mature seeds, raw	Daidzein	0.01		2	0.00	0.01	c	11, 17
		Genistein	0.18		2	0.00	0.37	c	11, 17
		Total Isofl.	0.19		2	0.00	0.38	c	11, 17
16083	Mung beans, mature	Daidzein	0.01		2	0.00	0.02	c	11, 17

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NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
	seeds, raw	Genistein	0.01		2	0.00	0.03	c	11, 17
		Total Isofl.	0.03		2	0.00	0.05	c	11, 17
16113	Natto (soybeans, boiled and fermented)	Daidzein	21.85	2.69	5	16.02	31.46	a	21, 24
		Genistein	29.04	3.01	7	21.52	42.53	a	12, 21, 24
		Glycitein	8.17	1.21	5	6.89	13.01	a	21, 24
		Total Isofl.	58.93	7.38	5	46.40	86.99	a	21, 24
42299	Oil, canola and soybean	Daidzein	0.00		1	0.00	0.00	c	21
		Genistein	0.00		1	0.00	0.00	c	21
		Glycitein	0.00		1	0.00	0.00	c	21
		Total Isofl.	0.00		1	0.00	0.00	c	21
04044	Oil, soybean, salad or cooking	Daidzein	0.00	0.00	3	0.00	0.00	a	21
		Genistein	0.00	0.00	3	0.00	0.00	a	21
		Glycitein	0.00	0.00	3	0.00	0.00	a	21
		Total Isofl.	0.00	0.00	3	0.00	0.00	a	21
16087	Peanuts, all types, raw	Daidzein	0.03		2	0.01	0.05	b	17
		Genistein	0.24		2	0.08	0.39	b	17
		Total Isofl.	0.26		2	0.13	0.39	b	17
16085	Peas, split, mature seeds, raw	Daidzein	2.42	2.42	3	0.00	7.26	b	11, 17
		Genistein	0.00	0.00	3	0.00	0.01	b	11, 17
		Total Isofl.	2.42	2.42	3	0.00	7.26	b	11, 17
16101	Pigeon peas (red gram), mature seeds, raw	Daidzein	0.02		1	0.02	0.02	c	17
		Genistein	0.54		1	0.54	0.54	c	17
		Total Isofl.	0.56		1	0.56	0.56	c	17
19015	Snacks, granola bars, hard, plain	Daidzein	0.05		1	0.05	0.05	c	19
		Genistein	0.08		1	0.08	0.08	c	19
		Total Isofl.	0.13		1	0.13	0.13	c	19
99105	Soybean butter, full fat, Worthington Foods, Inc.	Daidzein	22.00		1	22.00	22.00	c	24
		Genistein	30.00		1	30.00	30.00	c	24
		Glycitein	5.00		1	5.00	5.00	c	24

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NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
99042	Soy cheese, unspecified	Total Isofl.	57.00		1	57.00	57.00	c	24
		Daidzein	11.24		2	1.38	21.10	c	5, 10
		Genistein	20.08		2	1.95	38.20	c	5, 10
		Total Isofl.	31.32		2	3.33	59.30	c	5, 10
99041	Soy cheese, cheddar	Daidzein	1.80		2	0.20	3.40	c	36
		Genistein	2.25		2	0.50	4.00	c	36
		Glycitein	3.10		2	2.70	3.50	c	36
		Total Isofl.	7.15		2	3.40	10.90	c	36
99054	Soy cheese, mozzarella	Daidzein	1.10		1	1.10	1.10	c	36
		Genistein	3.60		1	3.60	3.60	c	36
		Glycitein	3.00		1	3.00	3.00	c	36
		Total Isofl.	7.70		1	7.70	7.70	c	36
99056	Soy cheese, parmesan	Daidzein	1.50		1	1.50	1.50	c	36
		Genistein	0.80		1	0.80	0.80	c	36
		Glycitein	4.10		1	4.10	4.10	c	36
		Total Isofl.	6.40		1	6.40	6.40	c	36
99043	Soy drink	Daidzein	2.41		2	0.70	4.12	c	6, 26
		Genistein	4.60		2	2.10	7.10	c	6, 26
		Total Isofl.	7.01		2	2.80	11.22	c	6, 26
99045	Soy fiber	Daidzein	18.80		2	16.58	21.03	c	5, 20
		Genistein	21.68		2	17.11	26.26	c	5, 20
		Glycitein	7.90		1	7.90	7.90	c	20
		Total Isofl.	44.43		2	38.13	50.73	c	5, 20
99080	Soy flour (textured)	Daidzein	59.62	12.18	8	1.65	123.25	a	20, 26, 32, 36
		Genistein	78.90	14.75	8	2.75	144.02	a	20, 26, 32, 36
		Glycitein	20.19	2.87	4	15.60	28.28	b	20, 36
		Total Isofl.	148.61	28.71	8	4.40	295.55	a	20, 26, 32, 36
16117	Soy flour, defatted	Daidzein	57.47	9.28	9	22.60	93.90	a	5, 27, 28, 33, 35, 36

5/10
5/10
5/10

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NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
		Genistein	71.21	5.54	9	46.51	100.54	a	5, 27, 28, 33, 35, 36
		Glycitein	7.55	1.82	3	3.95	9.89	c	33, 35, 36
		Total Isofl.	131.19	11.25	9	73.72	168.09	a	5, 27, 28, 33, 35, 36
16115	Soy flour, full-fat, raw	Daidzein	71.19	6.95	20	18.20	130.92	a	7, 10, 11, 19, 20, 25, 26, 28, 35
		Genistein	96.83	7.38	21	6.39	145.23	a	7, 10, 11, 19, 20, 25, 26, 28, 35
		Glycitein	16.18	2.65	7	4.80	24.83	a	7, 10, 20, 25, 35
		Total Isofl.	177.89	12.57	20	59.80	264.84	a	7, 10, 11, 19, 20, 25, 26, 28, 35
16116	Soy flour, full-fat, roasted	Daidzein	99.27	10.01	3	87.65	119.20	c	1, 5, 21
		Genistein	98.75	16.21	3	70.74	126.90	c	1, 5, 21
		Glycitein	16.40		2	14.40	18.40	c	1, 21
		Total Isofl.	208.95	37.29	3	161.70	260.50	c	1, 5, 21
99111	Soy hot dog, frozen, unprepared	Daidzein	3.40		1	3.40	3.40	c	36
		Genistein	8.20		1	8.20	8.20	c	36
		Glycitein	3.40		1	3.40	3.40	c	36
		Total Isofl.	15.00		1	15.00	15.00	c	36
16119	Soy meal, defatted, raw	Daidzein	57.47		1	57.47	57.47	c	34
		Genistein	68.35		1	68.35	68.35	c	34
		Total Isofl.	125.82		1	125.82	125.82	c	34
16120	Soy milk, fluid	Daidzein	4.45	0.75	14	1.14	9.84	a	1, 5, 10, 14, 15, 16, 21, 34, 35
		Genistein	6.06	0.84	16	1.12	11.28	a	1, 5, 10, 12, 14, 15, 16, 21, 34, 35

639/10
100%
40%

(Units = mg/100 g edible portion for Mean, Standard error of the mean (SEM), Min, and Max; #S = the total number of means/individual values; CC=Confidence code)

NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
		Glycitein	0.36	0.09	5	0.36	0.86	a	1, 21, 35
		Total Isofl.	9.65	1.76	14	1.26	21.13	a	1, 5, 10, 14, 15, 16, 21, 34, 35
99014	Soy milk, feed	Daidzein	1.90		2	0.34	3.45	c	5
		Genistein	2.81		2	1.78	3.85	c	5
		Total Isofl.	4.71		2	2.12	7.31	c	5
99096	Soy milk skin or film (foo jook or yuba), cooked	Daidzein	18.20		1	18.20	18.20	c	10
		Genistein	32.50		1	32.50	32.50	c	10
		Total Isofl.	50.70		1	50.70	50.70	c	10
99053	Soy milk skin or film (foo jook or yuba), raw	Daidzein	79.88		2	43.76	116.00	c	10, 34
		Genistein	104.80		2	77.91	131.70	c	10, 34
		Glycitein	18.40		1	18.40	18.40	c	10
		Total Isofl.	193.88		2	121.66	266.10	c	10, 34
99049	Soy noodles, flat	Daidzein	0.90		1	0.90	0.90	c	36
		Genistein	3.70		1	3.70	3.70	c	36
		Glycitein	3.90		1	3.90	3.90	c	36
		Total Isofl.	8.50		1	8.50	8.50	c	36
99038	Soy paste	Daidzein	15.03	3.79	6	3.00	27.20	a	5, 34, 36
		Genistein	15.21	4.87	6	0.31	29.98	a	5, 34, 36
		Glycitein	7.70		1	7.70	7.70	c	36
		Total Isofl.	31.52	9.26	6	3.31	59.40	a	5, 34, 36
99060	Soy protein concentrate, aqueous washed	Daidzein	43.04	24.04	3	16.68	91.05	b	5, 20
		Genistein	55.59	10.60	3	40.29	75.95	b	5, 20
		Glycitein	5.16		2	4.27	6.05	c	20
		Total Isofl.	102.07	32.82	3	61.23	167.00	b	5, 20
16121	Soy protein concentrate, produced by alcohol extraction	Daidzein	6.83	3.68	5	0.79	21.09	a	5, 20, 26
		Genistein	5.33	1.69	5	1.29	10.73	a	5, 20, 26
		Glycitein	1.57		1	1.57	1.57	c	20
		Total Isofl.	12.47	5.24	5	2.08	31.82	a	5, 20, 26

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NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
16122	Soy protein isolate	Daidzein	33.59	5.99	14	7.70	68.89	a	1, 4, 5, 10, 20, 30, 33, 35, 36
		Genistein	59.62	6.68	14	27.17	105.10	a	1, 4, 5, 10, 20, 30, 33, 35, 36
		Glycitein	9.47	1.81	11	5.40	26.40	a	1, 4, 20, 30, 35, 36
		Total Isofl.	97.43	11.11	14	46.50	199.25	a	1, 4, 5, 10, 20, 30, 33, 35, 36
16125	Soy sauce made from hydrolyzed vegetable protein	Daidzein	0.10		1	0.10	0.10	c	21
		Genistein	0.00		1	0.00	0.00	c	21
		Glycitein	0.00		1	0.00	0.00	c	21
		Total Isofl.	0.10		1	0.10	0.10	c	21
16123	Soy sauce made from soy and wheat (shoyu)	Daidzein	0.93	0.24	3	0.60	1.40	b	5, 21, 34
		Genistein	0.82	0.21	5	0.30	1.54	a	5, 12, 21, 34
		Glycitein	0.45		1	0.45	0.45	c	21
		Total Isofl.	1.64	0.33	3	1.27	2.30	b	5, 21, 34
99063	Soy-based liquid formula for adults, ROSS, ENRICH	Daidzein	0.14		1	0.14	0.14	c	6
		Genistein	0.40		1	0.40	0.40	c	6
		Total Isofl.	0.54		1	0.54	0.54	c	6
99064	Soy-based liquid formula for adults, ROSS, GLUCERNA	Daidzein	0.02		1	0.02	0.02	c	6
		Genistein	0.06		1	0.06	0.06	c	6
		Total Isofl.	0.08		1	0.08	0.08	c	6
99065	Soy-based liquid formula for adults, ROSS, JEVITY ISOTONIC	Daidzein	0.03		1	0.03	0.03	c	6
		Genistein	0.31		1	0.31	0.31	c	6
		Total Isofl.	0.34		1	0.34	0.34	c	6
99072	Soybean chips	Daidzein	26.71		1	26.71	26.71	c	5
		Genistein	27.45		1	27.45	27.45	c	5
		Total Isofl.	54.16		1	54.16	54.16	c	5
43299	Soybean curd cheese	Daidzein	9.00		1	9.00	9.00	c	10
		Genistein	19.20		1	19.20	19.20	c	10

(Units = mg/100 g edible portion for Mean, Standard error of the mean (SEM), Min, and Max; #S = the total number of means/individual values; CC=Confidence code)

NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
99034	Soybean, curd, fermented	Total Isofl.	28.20		1	28.20	28.20	c	10
		Daidzein	14.30		1	14.30	14.30	c	36
		Genistein	22.40		1	22.40	22.40	c	36
		Glycitein	2.30		1	2.30	2.30	c	36
		Total Isofl.	39.00		1	39.00	39.00	c	36
99030	Soybeans, Brazil, raw	Daidzein	20.16	3.03	6	9.89	30.48	b	2
		Genistein	67.47	13.40	6	28.28	110.98	b	2
		Total Isofl.	87.63	14.51	6	42.54	141.46	b	2
99092	Soybeans, Japan, raw	Daidzein	34.52	11.49	7	13.40	100.65	a	11, 37
		Genistein	64.78	13.04	8	13.00	138.24	a	11, 37
		Glycitein	13.78	1.64	6	9.10	20.40	b	37
		Total Isofl.	118.51	22.16	7	68.80	238.89	a	11, 37
99093	Soybeans, Korea, raw	Daidzein	72.68	6.12	18	21.00	124.20	a	3
		Genistein	72.31	5.71	18	24.80	110.70	a	3
		Total Isofl.	144.99	10.73	18	45.80	231.70	a	3
99040	Soybeans, Taiwan, raw	Daidzein	28.21		1	28.21	28.21	c	11
		Genistein	31.54		1	31.54	31.54	c	11
		Total Isofl.	59.75		1	59.75	59.75	c	11
99035	Soybeans, flakes, defatted	Daidzein	36.97	8.61	9	13.92	88.04	a	7, 8, 14, 29, 30
		Genistein	85.69	14.67	9	44.41	156.06	a	7, 8, 14, 29, 30
		Glycitein	14.23		2	1.71	26.76	c	7, 29
		Total Isofl.	125.82	22.76	9	61.34	244.10	a	7, 8, 14, 29, 30
99036	Soybeans, flakes, full-fat	Daidzein	48.23		2	22.10	74.35	c	7, 32
		Genistein	79.98		2	28.00	131.96	c	7, 32
		Glycitein	1.57		1	1.57	1.57	c	7
		Total Isofl.	128.99		2	50.10	207.89	c	7, 32
11451	Soybeans, immature,	Daidzein	6.85		1	6.85	6.85	c	11

(Units = mg/100 g edible portion for Mean, Standard error of the mean (SEM), Min, and Max; #S = the total number of means/individual values; CC=Confidence code)

NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
	cooked, boiled, drained, without salt	Genistein	6.94		1	6.94	6.94	c	11
		Total Isofl.	13.79		1	13.79	13.79	c	11
11450	Soybeans, immature, seeds, raw (includes edamame)	Daidzein	9.27	1.62	3	6.62	12.20	c	10, 11, 24
		Genistein	9.84	2.46	3	5.94	14.40	c	10, 11, 24
		Glycitein	4.29		1	1.29	4.29	c	24
		Total Isofl.	20.54	3.13	3	16.85	26.60	c	10, 11, 24
99100	Soybeans, green, mature seeds, raw	Daidzein	67.79	4.58	4	54.60	75.35	b	24, 36
		Genistein	72.51	6.84	4	62.65	91.72	b	24, 36
		Glycitein	10.88	2.98	4	6.72	19.69	b	24, 36
		Total Isofl.	151.17	12.00	4	135.40	186.76	b	24, 36
16109	Soybeans, mature cooked, boiled, without salt	Daidzein	26.95		1	26.95	26.95	c	11
		Genistein	27.71		1	27.71	27.71	c	11
		Total Isofl.	54.66		1	54.66	54.66	c	11
16111	Soybeans, mature seeds, dry roasted (includes soy nuts)	Daidzein	67.45	13.76	7	53.60	86.00	a	5, 10, 11, 24, 36
		Genistein	94.76	17.55	8	86.90	110.55	a	5, 10, 11, 12, 24, 36
		Glycitein	13.36	11.87	5	0.00	30.70	a	10, 24, 36
		Total Isofl.	176.94	16.69	7	151.00	201.90	a	5, 10, 11, 24, 36
16108	Soybeans, mature seeds, raw (US, food quality)	Daidzein	46.64	5.42	22	9.88	91.30	a	9, 10, 11, 17, 35, 36, 37
		Genistein	73.76	6.80	22	20.67	134.10	a	9, 10, 11, 17, 35, 36, 37
		Glycitein	10.88	0.74	16	4.80	16.70	a	10, 35, 36, 37
		Total Isofl.	128.35	11.66	22	36.20	220.90	a	9, 10, 11, 17, 35, 36, 37
99091	Soybeans, mature seeds, raw (US, commodity grade)	Daidzein	52.20	5.30	14	20.74	79.23	a	7, 11, 34, 37
		Genistein	91.71	9.26	14	42.79	150.10	a	7, 11, 34, 37
		Glycitein	12.07	1.41	11	4.22	18.14	a	7, 37
		Total Isofl.	153.40	14.80	14	71.93	237.00	a	7, 11, 34, 37

(Units = mg/100 g edible portion for Mean, Standard error of the mean (SEM), Min, and Max; #S = the total number of means/individual values; CC=Confidence code)

NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
11452	Soybeans, mature seeds, sprouted, raw	Daidzein	19.12	2.70	3	13.78	22.50	c	10, 34
		Genistein	21.60	5.60	3	11.25	30.50	c	10, 34
		Total Isofl.	40.71	8.25	3	25.03	53.00	c	10, 34
16167	Soylinks, frozen, cooked, MORNING STAR breakfast	Daidzein	0.75		1	0.75	0.75	c	21
		Genistein	2.70		1	2.70	2.70	c	21
		Glycitein	0.30		1	0.30	0.30	c	21
		Total Isofl.	3.75		1	3.75	3.75	c	21
16166	Soylinks, frozen, raw, MORNING STAR breakfast	Daidzein	1.18		1	1.18	1.18	c	21
		Genistein	2.45		1	2.45	2.45	c	21
		Glycitein	0.30		1	0.30	0.30	c	21
		Total Isofl.	3.93		1	3.93	3.93	c	21
02019	Spices, fenugreek seed	Daidzein	0.01		1	0.01	0.01	c	17
		Genistein	0.01		1	0.01	0.01	c	17
		Total Isofl.	0.02		1	0.02	0.02	c	17
12036	Sunflower seed kernels, dried	Daidzein	0.00		1	0.00	0.00	c	19
		Genistein	0.00		1	0.00	0.00	c	19
		Total Isofl.	0.00		1	0.00	0.00	c	19
99107	Tea, green, Japan	Daidzein	0.01		1	0.01	0.01	c	18
		Genistein	0.04		1	0.04	0.04	c	18
		Total Isofl.	0.05		1	0.05	0.05	c	18
99106	Tea, jasmine, Twinings	Daidzein	0.01		1	0.01	0.01	c	18
		Genistein	0.03		1	0.03	0.03	c	18
		Total Isofl.	0.04		1	0.04	0.04	c	18
16114	Tempeh	Daidzein	17.59	3.13	6	4.67	27.30	a	5, 13, 21, 26, 35, 36
		Genistein	24.85	5.47	6	1.11	39.77	a	5, 13, 21, 26, 35, 36
		Glycitein	2.10	0.67	3	0.90	3.20	b	21, 35, 36
		Total Isofl.	43.52	8.34	6	6.88	62.50	a	5, 13, 21, 26, 35, 36

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NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
99081	Tempeh burger	Daidzein	6.40		1	6.40	6.40	c	36
		Genistein	19.60		1	19.60	19.60	c	36
		Glycitein	3.00		1	3.00	3.00	c	36
		Total Isofl.	29.00		1	29.00	29.00	c	36
16174	Tempeh, cooked	Daidzein	19.25		1	19.25	19.25	c	21
		Genistein	31.55		1	31.55	31.55	c	21
		Glycitein	2.20		1	2.20	2.20	c	21
		Total Isofl.	53.00		1	53.00	53.00	c	21
16162	Tofu, MORI-NU, silken, firm	Daidzein	11.13		2	8.55	13.71	b	5, 21
		Genistein	15.58		2	12.85	18.31	b	5, 21
		Glycitein	2.40		1	2.40	2.40	c	21
		Total Isofl.	27.91		2	23.80	32.02	b	5, 21
16128	Tofu, dried-frozen (koyadofu, kori tofu, or tung tou-fu)	Daidzein	25.34		1	25.34	25.34	c	34
		Genistein	42.15		1	42.15	42.15	c	34
		Total Isofl.	67.49		1	67.49	67.49	c	34
99084	Tofu, AZUMAYA, extra firm, cooked (steamed)	Daidzein	8.00		1	8.00	8.00	c	21
		Genistein	12.75		1	12.75	12.75	c	21
		Glycitein	1.95		1	1.95	1.95	c	21
		Total Isofl.	22.70		1	22.70	22.70	c	21
99083	Tofu, AZUMAYA, extra firm, prepared with nigari	Daidzein	8.23		2	7.35	9.10	b	21
		Genistein	12.45		2	11.10	13.80	b	21
		Glycitein	1.95		2	1.70	2.20	b	21
		Total Isofl.	22.63		2	20.15	25.10	b	21
99085	Tofu, AZUMAYA, firm, cooked	Daidzein	12.80		1	12.80	12.80	c	21
		Genistein	16.15		1	16.15	16.15	c	21
		Glycitein	2.40		1	2.40	2.40	c	21
		Total Isofl.	31.35		1	31.35	31.35	c	21
16126	Tofu, firm, prepared with calcium sulfate and nigari	Daidzein	9.44	1.68	6	2.90	14.55	a	6, 21, 34
		Genistein	13.35	2.00	7	4.96	21.26	a	6, 12, 21, 34

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NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
16129	Tofu, fried (aburage)	Glycitein	2.08	0.15	4	1.70	2.40	a	21
		Total Isofl.	24.74	3.77	6	7.85	34.55	a	6, 21, 34
		Daidzein	17.83	2.60	4	12.20	24.70	b	10, 21
		Genistein	28.00	3.41	4	19.00	35.10	b	10, 21
16130	Tofu, okara	Glycitein	3.37	1.07	3	1.60	5.30	b	10, 21
		Total Isofl.	48.35	6.06	4	36.90	65.10	b	10, 21
		Daidzein	5.39		2	0.57	10.20	c	21, 35
		Genistein	6.48		2	1.95	11.00	c	21, 35
99097	Tofu, pressed (T'au kwa), raw	Glycitein	1.64		2	1.09	2.20	c	21, 35
		Total Isofl.	13.51		2	3.61	23.40	c	21, 35
		Daidzein	13.60		1	13.60	13.60	c	10
		Genistein	13.90		1	13.90	13.90	c	10
16427	Tofu, raw, regular, prepared with calcium sulfate	Glycitein	2.00		1	2.00	2.00	c	10
		Total Isofl.	29.50		1	29.50	29.50	c	10
		Daidzein	9.02	2.86	4	1.15	14.60	b	6, 11, 35, 36
		Genistein	13.60	3.61	4	2.89	18.66	b	6, 11, 35, 36
16132	Tofu, salted and fermented (tuyu)	Glycitein	1.98		2	1.05	2.90	c	35, 36
		Total Isofl.	23.61	6.33	4	5.09	33.70	b	6, 11, 35, 36
		Daidzein	14.29		2	3.58	25.00	c	10, 34
		Genistein	16.38		2	3.96	28.80	c	10, 34
99086	Tofu, soft, VITASOY-silken	Glycitein	5.00		1	5.00	5.00	c	10
		Total Isofl.	33.17		2	7.54	58.80	c	10, 34
		Daidzein	8.59		1	8.59	8.59	c	6
		Genistein	20.65		1	20.65	20.65	c	6
16127	Tofu, soft, prepared with calcium sulfate and nigan	Total Isofl.	29.24		1	29.24	29.24	c	6
		Daidzein	11.99	2.69	7	3.44	25.80	a	6, 10, 21, 34
		Genistein	18.23	3.77	7	5.26	37.70	a	6, 10, 21, 34
		Glycitein	2.03	0.28	3	1.70	2.60	b	10, 21
		Total Isofl.	31.10	6.19	7	8.70	63.50	a	6, 10, 21, 34

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NDB No	Description	NutrDesc	Mean	SEM	#S	Min	Max	CC	Reference No.
43476	Tofu, yogurt	Daidzein	5.70		1	5.70	5.70	c	36
		Genistein	9.40		1	9.40	9.40	c	36
		Glycitein	1.20		1	1.20	1.20	c	36
		Total Isofl.	16.30		1	16.30	16.30	c	36
23501	USDA Commodity, beef patties with VPP, frozen, cooked	Daidzein	0.67	0.15	5	0.30	1.05	a	21
		Genistein	1.09	0.19	5	0.50	1.65	a	21
		Glycitein	0.10	0.03	5	0.00	0.20	a	21
		Total Isofl.	1.86	0.35	5	0.90	2.90	a	21
23506	USDA Commodity, beef patties with VPP, frozen, raw	Daidzein	0.35	0.07	5	0.20	0.55	a	21
		Genistein	0.77	0.12	5	0.35	1.10	a	21
		Glycitein	0.02	0.02	5	0.00	0.10	a	21
		Total Isofl.	1.14	0.20	5	0.55	1.75	a	21
22126	WORTHINGTON FOODS, LOMA LINDA, BIG FRANKS, meatless franks, canned	Daidzein	1.00		1	1.00	1.00	c	21
		Genistein	2.05		1	2.05	2.05	c	21
		Glycitein	0.30		1	0.30	0.30	c	21
		Total Isofl.	3.35		1	3.35	3.35	c	21
22116	WORTHINGTON FOODS, LOMA LINDA, BIG FRANKS, meatless franks, canned, prepared	Daidzein	1.35		1	1.35	1.35	c	21
		Genistein	2.00		1	2.00	2.00	c	21
		Glycitein	0.40		1	0.40	0.40	c	21
		Total Isofl.	3.75		1	3.75	3.75	c	21

**A TABLE FOR COUMESTROL, FORMONONETIN AND
BIOCHANIN A (mg/100g)**

**A TABLE FOR COUMESTROL, FORMONONETIN AND
BIOCHANIN A (mg/100g)**

NDB No.	Food description	Ref. No.	Coumestrol	Formononetin	Biochanin A
11052	Green beans, raw	11	0.00	0.15	Trace
11053	Green beans, ckd	11	0.00	Trace	Trace
16071	Lima beans, large, dry	11	1.48	Trace	Trace
		17	0.00	0.01	0.00
16072	Lima beans, large, ckd	11	0.00	0.01	0.00
16056	Garbanzo beans, dry	11	0.00	0.00	1.52
		17	0.00	0.14	1.78
16028	Kidney beans, ckd	11	0.00	0.00	0.41
16042	Pinto beans, dry	11	3.61	Trace	0.56
		17	0.00	0.00	0.00
16074	Lima beans, small, dry	11	0.00	0.55	0.37
16024	Great northern beans, dry	11	0.00	0.00	0.60
16040	Pink beans, dry	11	0.00	1.05	0.00
16062	Blackeyed beans, dry	11	0.00	0.00	1.75
		17	0.00	0.00	0.00
16045	Small white beans, dry	11	0.00	0.82	0.00
16085	Split peas, yellow & green	11	0.00	0.00	0.86
		17	0.00	0.00	0.00
	Split peas, round	11	8.11	0.00	0.00
	Chinese peas, ckd	11	0.00	0.00	9.31
99019	Kala chana, dry	11	6.13	0.00	1.26
16080	Mung beans, dry	11	0.00	0.61	0.00
		17	Trace	0.01	0.01
99009	Clover sprouts	11	28.1	2.28	0.44
11001	Alfalfa sprouts	11	4.68	Trace	0.00
		21	0.00	261	0.00
19015	Granola candy bar	19	Trace	0.00	0.00
99001	9-grain bread, US	19	0.00	0.00	0.00
18216	Crispbread, Finland	19	Trace	0.00	0.00
12036	Sunflower seeds	19	Trace	0.03	Trace

NDB no.	Food Description	Ref. No.	Coumestrol	Formononetin	Biochanin A
99020	Lapacho tea	19	0.00	0.01	0.03
16115	Soy flour, UK	19	0.00	0.03	0.07
99106	Jasmine tea	18	0.03		
99107	Green tea	18	0.03		
16108	Soybeans, dry	17	0.05	0.07	0.01
16027	Kidney beans, dry	17	0.00	0.01	Trace
16032	Kidney beans, red, dry	17	0.00	0.00	0.01
16037	Navy beans, dry	17	0.00	0.00	0.00
16027	Kidney beans, white dry	17	0.00	0.00	0.01
16095	Groundnut, americana	17	0.00	0.00	0.01
16101	Pigeon peas, dry	17	Trace	0.01	0.10
16052	Broad beans, dry	17	0.00	0.02	Trace
16083	Black gram (urad dahl)	17	0.00	0.00	0.03
16087	Peanut	17	0.00	0.01	0.01
16069	Lentils	17	0.00	0.01	0.00
	Red clover	28		1322	833
11452	Soy sprouts	34	38.6	0.00	
99003	Alfalfa sprouts mixed with clover sprouts	21	466	1771	2946

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Soy beans (raw, dry, Singapore), soy beans (roasted), soybeans (toasted), green soy bean pods, soy protein, soy bean sprouts, tofu (raw), tofu (fermented, Singapore), curd (fermented), soy milk, soy cheese, Foo Jook (skimmed , dry supernatant, raw, Singapore), Foo Jook (cooked), Tau Kwa, raw (pressed tofu, raw, Singapore), Tau Pok, raw (fried Tau Kwa, Singapore), bean curd (fried).
Daidzein, Genistein, Glycitein
11. Franke, A. A., Custer, L. J., Cerna, C. M., and Narala, K.
Rapid HPLC analysis of dietary phytoestrogens from legumes and from human urine.
Proc. Soc. Exp. Biol. Med., 208, 1995, p.18-26.
Soy beans (dry, U.S., Japan), Soy beans , roasted (Japan), Soy beans (fresh, raw), soy beans (boiled, U.S., Taiwan), Soy flour (U.S.), tofu, black soy beans (raw and boiled), red bean seeds (dry), broad beans (fried), small white beans (dry), kala chana seeds (dry), clover sprouts, alfalfa sprouts, black bean seeds, green beans (fresh raw and boiled), large lima beans (dry and boiled),

- garbanzo (dry), kidney beans (cooked), pinto beans (dry), white navy beans (dry), small lima beans (dry), great northern beans (dry), pink beans (dry), blackeyed beans (dry), yellow split beans (dry), mung beans (dry), red beans (boiled), lentils, urad dahl, masur dahl
Daidzein, Genistein, Coumestrol, Formononetin, Biochanin-A
12. Fukutake, M., Takahashi, M., Ishida, K., Kawamura, H., Sugimura, T., and Wakabayashi, K.
Quantification of genistein and genistin in soybeans and soybean products.
Food and Chemical Toxicology, 34(5), 1996, p.457-461.
Soybeans, soy nuts, fava beans, soy powder, soymilk, tofu, miso, natto, soy sauce
Genistein
13. Hutchins, A. M., Slavin, J. L., and Lampe, J. W.
Urinary isoflavonoid phytoestrogen and lignan excretion after consumption of fermented and unfermented soy products.
J. Am. Diet. Assoc., 95, 1995, p.545-551.
tempeh
Daidzein, Genistein
14. Jones, A. E., Price, K. R., and Fenwick, G. R.
Development and application of a high-performance liquid chromatographic method for the analysis of phytoestrogens.
J. Sci. Food Agric., 46, 1989, p.357-364.
soya milk, soya dessert, soya flakes
Daidzein, Genistein
15. Lu, L. W., Broemeling, L. D., Marshall, M. V., and Ramanujam, S.
A simplified method to quantify isoflavones in commercial soybean diets and human urine after legume consumption.
Cancer Epidemiology Biomarkers and Prevention, 4, 1995, p.497-503.
miso, soymilk (Banyan Foods, Plum Flower), Isomil
Daidzein, Genistein
16. Lu, L. W., Grady, J. J., Marshall, M. V., Ramanujam, V. M. S., and Anderson, K. E.
Altered time course of urinary daidzein and genistein excretion during chronic soya diet in healthy males.
Nutr. Cancer, 24, 1995, p.311-323.
soymilk (Banyan Foods)
Daidzein, Genistein
17. Mazur, W. M., Duke, J. A., Wähälä, K., Rasku, S., and Adlercreutz, H.
Isoflavonoids and lignans in legumes: Nutritional and health aspects in humans.
Nutritional Biochemistry, 9, 1998, p.193-200.
soy beans (Centennial, dry), soy beans (INIAP, dry), soy beans (Santa rosa, dry), soy beans (Chapman, dry), kidney beans (dry), red kidney beans (dry), pinto beans (dry), navy beans (Haricot, dry), White kidney beans (dry), lima beans (dry), American groundnuts (dry), pigeon peas (dry), chickpeas (Bengal gram, dry), split peas (green, yellow, chana dahl, dry), fenugreek, broad beans (dry), black gram(dry), cowpeas (blackeyed peas, dry), mung beans (green gram, dry), peanuts (groundnuts, dry), lentil (dry)
Daidzein, Genistein, Coumestrol, Formononetin, Biochanin-A, lignans (SECO, Matairesinol)
18. Mazur, W. M., Wähälä, K., Rasku, S., Salakka, A., Hase, T., and Adlercreutz, H.
Lignan and isoflavonoid concentrations in tea and coffee.
Brit. J. Nutr., 79(1), 1998, p.37-45.
Jasmine tea, green tea (Japan)
Daidzein, Genistein, Coumestrol, lignans (SECO, Matairesinol)
19. Mazur, W., Fotsis, T., Wähälä, K., Ojala, S., Salakka, A. and Adlercreutz, H.
Isotope dilution gas chromatographic-mass spectrometric method for the determination of isoflavonoids, coumestrol, and lignans in food samples.
Anal. Biochem., 233(2), 1996, p.169-180.
granola candy bar (USA), 9-grain bread, crisp bread, Finn crisp bread, sunflower seeds, country rye bread, lapacho tea (Tacoma heptaphylla), flax seed, soy flour (soyolk flour, Spillers, UK)
Daidzein, Genistein, Coumestrol, Formononetin, Biochanin-A, lignans (SECO, Matairesinol)
20. Murphy, P. A., Barua, K., and Song, T.
Soy isoflavones in foods: Database development.
In: American Chemical Society Symposium Series: Functional Foods: Overview and Diseases Prevention , ed. T. Shibamoto. In press.
Soy flour, soy isolate, soy concentrate (aqueous washed, alcohol washed), TVP (texturized vegetable protein), soy fiber
Daidzein, Genistein, Glycitein
21. Murphy, P. A., Song, T., Buseman, G., Barua, K., Beecher, G. R., Trainer, D., and Holden, J.
Isoflavones in retail and institutional soy foods.
J. Agric. Food Chem. In press.
Daidzein, Genistein, Glycitein
22. Murphy, P. A., Song, T., Buseman, G., and Barua, K.
Isoflavones in soy-based infant formulas.
J. Agric. Food Chem., 45, 1997, 4635-4638.
infant formulas: Gerber (powder), Prosohee (powder), Isomil (powder), Nursoy soy protein (powder and liquid concentrate), Enfamil next step (powder)

Daidzein, Genistein, Glycitein

23. Murphy, P.A. (Unpublished data)
Infant formulas: Prosobee (powder), Gerber (powder), Isomil (powder), Nursoy soy protein (ready to feed), Enfamil next step (powder)
Daidzein, Genistein, Glycitein
24. Murphy, P.A. (Unpublished data)
green soy beans (Edame, dry), soy beans (small Jade Black), natto (DHA), natto (fermented soy beans), soy bean butter (full fat), natto kibun, soy nuts (full fat), soy nuts (plain halves), soy flakes (white, not roasted), green soy beans (Edame, fresh)
Daidzein, Genistein, Glycitein
25. Naim, M., Gestetner, B., Zilkah, S., Birk, Y., and Bondi, A.
Soybean isoflavones, characterization, determination, and antifungal activity.
J. Agric. Food Chem., 22, 1976, p. 806-810.
soybean flour (Wayne var.-1969)
Daidzein, Genistein, glycitein
26. Nguyenle, T., Wang, E., and Cheung, A. P.
An investigation on the extraction and concentration of isoflavones in soy-based products.
J. Pharmaceutical and Biomedical Analysis, 14, 1995, p.221-232.
Infant formulas: Isomil (ready to feed), Nursoy (liquid concentrate), Prosobee (liquid concentrate), soy flours (Central soya - Soyaflouffy), Centex, Promax, Promax plus, ADM - Nutrisoy, TVP, Acron-F, Acron-S, Cargill Protein Products -200/20, 200/70, Arrowhead, Molly farm, Sun Ridge Farm, soy drink, tempeh, soy concentrates (Procon, Promine), TVP (Response)
Daidzein, Genistein
27. Padgett, S. R., Taylor, N. B., Nida, D. L., Bailey, M. R., MacDonald, J., Holden, L. R., and Fuchs, R. L.
The composition of glyphosate-tolerant soybean seeds is equivalent to that of conventional soybeans.
J. Nutr., 126(3), 1996, p.702-716.
soybean meal (A5403, Asgrow maturity group V, 1993)
Daidzein, Genistein
28. Petterson, H., and Kiessling, K-H.
Liquid chromatographic determination of the plant estrogens coumestrol and isoflavones in animal feed.
J. Assoc. Off. Anal. Chem., 67(3), 1984, p.503-506.
defatted soybean meal and whole soybean meal in animal feed
Daidzein, Genistein, Formononetin, Biochanin-A
29. Pratt, D. E., and Birac, P. M.

Source of antioxidant activity of soybeans and soy products.

- J. Food Sci.*, 44, 1979, p.1720-1722.
soybeans, Corsoy var., Glycine max
Daidzein, Genistein, Glycitein, Cinnamic acids (Chlorogenic, Caffeic, p-coumeric, Ferulic)
30. Soo, A., and Morr, C. V.
Improved high-performance liquid chromatographic analysis of phenolic acids and isoflavonoids from soybean protein products.
J. Agric. Food Chem., 32, 1984, p.530-533.
defatted soy flakes, soy protein isolates (Ralston Purina co.)
Daidzein, Genistein, some phenolic compounds
31. Setchell, K. D. R., Zimmer-Nechemias, L., Cai, J., and Heubli, J. E.
Exposure of infants to phyto-oestrogens from soy-based infant formula.
Lancet, 350, 1997, p.23-27.
infant soy formula: Nursoy (powder), Isomil (powder), Prosobee (liquid concentrate)
Total isoflavones
32. Setchell, K. D. R., and Welsh, M. B.
High-performance liquid chromatographic analysis of phytoestrogens in soy protein preparations with ultraviolet, electrochemical and thermospray mass spectrometric detection.
J. Chromatography, 386, 1987, p.315-323.
textured soy protein, soy flakes, Prosobee (ready to feed), Isomil (ready to feed)
Daidzein, Genistein
33. Wang, C. Ma, Q., Pagadala, S., Sherrad, M.S., and Krishnan, P.G.
Changes of isoflavones during processing of soy protein isolates.
J. Am. Oil Chemists Society, 75(3), 1998, p.337-341.
Soy flour (defatted), soy protein isolate (made in lab)
Daidzein, Genistein, Glycitein
34. Wang, G., Kuan, S. S., Francis, O. J., Ware, G. M., and Carman, A. S.
A simplified HPLC method for the determination of phytoestrogens in soybean and its processed products.
J. Agric. Food Chem., 38, 1990, p.185-190.
soybeans, defatted soy meal, tofu-hard, tofu-soft, tofu-dry-spiced, soymilk skin(film), soymilk, soy sauce, soy paste-hot, soy paste-sweet, tofu-fermented, soy sprouts (homemade), soy sprouts (grocery)
Daidzein, Genistein, Formononetin, Coumestrol

35. Wang, H.-J., and Murphy, P. A.
Mass balance study of isoflavones during soybean processing.
J. Agric. Food Chem., 44(8), 1996, p.2377-2383.
soybeans (Vinton 81, 1992), soybeans (Vinton 81, 1993), soybean flour, products made in the lab
- tempeh, soymilk, okara, tofu (momen or cotton, CaSO₄ coag.), whey, soy protein isolate,
defatted soy flour
Daidzein, Genistein, Glycitein
36. Wang, H.-J., and Murphy, P. A.
Isoflavone content in commercial soybean foods.
J. Agric. Food Chem., 42, 1994, p.1666-1673.
soybean (Vinton 81 90H), soybean (Vinton 81, 91I), green soybeans, defatted soy flour, soy
granule, TVP, soy isolate, roasted soybeans, instant beverage (dry samples), tofu (CaSO₄ ppt),
tempeh, bean paste, fermented bean curd, Horzokuri miso (rice and soybeans), soy hot dog, soy
bacon, Tempeh burger, tofu yogurt, soy Parmesan, cheddar cheese, mozzarella cheese, flat
noodles
Daidzein, Genistein, Glycitein
37. Wang, H.-J., and Murphy, P. A.
Isoflavone composition of American and Japanese soybeans in Iowa: Effects of variety, crop year,
and location.
J. Agric. Food Chem., 42, 1994, p.1674-1677.
soybeans (Vinton 81-1989, 1990, 1991 at 3 locations), 1989 crops of Pioneer II, Strayer 2233,
Pioneer 9202, Prize, HP 204, LS301, XL72
Daidzein, Genistein, Glycitein
38. Xu, X., Wang, H.-J., Murphy, P. A., Cook, L., and Hendrich, S.
Daidzein is a more bioavailable soymilk isoflavone than is genistein in adult women.
J. Nutr., 124, 1994, p.825-832.
soymilk (powder, Now Foods)
Daidzein, Genistein

USDA Database for the Isoflavone Content of Selected Foods

Release 2.0

Prepared by the

Nutrient Data Laboratory
Beltsville Human Nutrition Research Center
Agricultural Research Service
U.S. Department of Agriculture

September 2008

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Release History

Release 1 - April 1999

- Release 1.1 contains a few minor corrections to descriptions for infant formula – (August 2000).
- Release 1.2 contains corrections to the values for formononetin and biochanin A in red clover – (March 2002).
- Release 1.3 contains corrections to one infant formula and adds data for another – (July 2002).
- Release 1.4 contains corrections to the values for soybean butter, soy flour, full fat, roasted; soybeans, immature seeds, raw (Edamame); and soybeans, mature seeds, dry roasted (soy nuts) – (April 2007).

Release 2 – September 2008

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Documentation

Isoflavones, a subclass of flavonoids, have weak estrogenic, as well as other biological properties that may contribute to the reduction of the risk of some chronic diseases. Soy isoflavones alone and along with soy proteins lower serum total and LDL cholesterol in humans (Taku et al., 2007). A review of clinical trials of soy isoflavones suggests some skeletal benefits in younger postmenopausal women (Messina et al., 2004). Although evidence for the beneficial role of isoflavones in breast cancer has become confounded, results of clinical trials for prostate cancer are encouraging (Messina et al., 2006) and non-hormonal properties of isoflavones, including cell cycle arrest and cell apoptosis, may reduce the risk of some cancers (Sarkar and Li, 2004). The database for the isoflavone content of foods is necessary to assess the effects of the intake of isoflavones on various biological parameters. Since soybeans are a major source of dietary isoflavones and soybeans and soybean products are also a good source of protein, inclusion of soy foods in the diet is recommended.

The Nutrient Data Laboratory (NDL) of ARS/USDA, in collaboration with the Iowa State University, released a Special Interest Database on isoflavones in foods in 1999. Some values in the database were updated when the NDL received new values for certain foods from the industry or recognized the need for other changes (see Release History). With the approval of a health claim for soy proteins from the Food and Drug Administration (FDA) in 1999, the number of new soy products and their consumption has increased, thus increasing the need to update the 1999 database.

Methods and procedures for generating the database

Searches were conducted on various databases of scientific literature. Articles containing analytical data for isoflavones in foods and ingredients, published in refereed journals since 1999, were collected for the update. The analytical method for isolating and quantifying isoflavones described by Murphy, et al. (1997) was used as the reference method for evaluating analytical methodologies in the published articles. Only the free (aglycone) forms of the isoflavones are absorbed by the gut to exert their potentially protective effects (Murphy, et al., 1997). Therefore the values for glucoside forms were converted into aglycone (free) forms by using appropriate ratios of molecular weights and were added to their respective free-form values to generate values for each aglycone form: daidzein, genistein, and glycitein for each food sample analyzed in the published article. Simple addition of free and glucoside forms of isoflavone concentrations without this correction will overestimate true isoflavone aglycone concentration by almost a factor of two (Wang and Murphy, 1996). Values in the database are reported as mg/100g of fresh weight of edible portion of food. Values expressed on a dry weight basis were converted to wet weight basis by using either published moisture content or by moisture content reported in the USDA National Nutrient Database for Standard Reference (SR) for that particular food (NDL, 2007). Values for beverages were adjusted by their respective specific gravities and are reported as mg/100g. Zero values reported in the database and the coumestrol, formononetin, and biochanin A table are true zero values, indicating that analysts attempted to measure the compounds in that food and did not

find it and reported as not detected (nd). Trace values were calculated by multiplying the limit of detection (LOD) by 0.71 (Mangels et al., 1993) if the LODs were available. The lack of a value for a particular isoflavone in a food in the database does not imply a zero value, but only that data were unavailable at that point in time. Many of the older reports of the soy food analyses did not report values for glycitein because of difficulties in detecting relatively small amounts present in the foods (5%-10% of total isoflavones).

Data quality evaluation

Data for only the most prominent isoflavones: daidzein, genistein, glycitein, and their glucosides were evaluated using the Data Quality Evaluation System (DQES) developed by NDL scientists (Holden et al., 2005; Holden et al., 2002). In Release 1 of the database, the data were evaluated by the expert system described by Mangels et al., (1993). This system was modified by Holden et al., (2002) to assess the documentation in greater detail. The five general categories of assessment—sampling plan, sample handling, analytical method, analytical quality control, and number of samples—were retained, but the rating point ranges for each category were expanded from 0-3 to 0-20 and the method of rating the categories at the point of aggregation was revised.

Therefore, all the data in Release 1 of the database were re-evaluated according to the modified system before aggregating with the new data. The ratings for each of the five categories are summed to yield a quality index (QI) with the maximum possible score of 100 points. A confidence code (CC) is derived from the QI and is an indicator of the relative quality of the data and the reliability of a given mean. The confidence code of "A" implies the highest quality data.

Table 1.— QI ranges for Confidence Codes

QI	CC
75-100	A
74-50	B
49-25	C
<25	D

Data analysis

The data for foods and ingredients were aggregated and matched with the food descriptions in the SR, where possible. Each food was assigned a nutrient data bank (NDB) number (a five digit numerical code used in the SR) if the food matched the respective food in the SR. As the data came from various sources, both in the United States and other countries, there are data for a number of foods which are not included in the SR database. In these cases, a temporary NDB number was assigned. These numbers begin with "99" or "97" and are not unique to this database, as they may have been used in other special interest databases produced by NDL. Subsequently, the mean value (mg/100g), standard deviation (SD), minimum (Min.), and maximum (Max.) values were determined for each isoflavone in each food. Mean values were weighted to account for the different number of samples among the various studies used. The weighted mean was, in turn, used to calculate the standard error based on the total number of samples in

each aggregated food. These values, along with the CC and sources of data, are given in the database.

Isoflavones table

The foods in the table are organized using the same food groups as in the SR. The table contains mean values, standard deviation (SD), and minimum (Min) and maximum (Max) values for individual aglycone forms: daidzein, genistein, and glycitein and the total isoflavone content. Where the values for the individual isoflavones and the total isoflavones were zero for a particular food item, they are reported in a separate table (p. 38). As mentioned earlier, glycitein contributes about 5%-10% to the total isoflavone content. Therefore, total isoflavone values were calculated if values were available for at least daidzein and genistein. The values for total isoflavones may not agree with the simple addition of the mean values of the three individual isoflavones since the mean values represent the aggregation of values from different sources. Several articles did not report glycitein values. Some articles reported values for genistein only. For example, soy flour, defatted (NDB No. 16117) has 49 data points for daidzein, 79 data points for genistein, 27 data points for glycitein and 49 data points for total isoflavones. The value (150.94 mg/100g) for the Total Isoflavones for soy flour in the database is a mean of 49 data points. A simple addition of the means for daidzein, genistein and glycitein will be 166.94 mg/100g. The discrepancies created by this procedure were evaluated and the differences were, in most cases, minor.

The user is reminded that the variety, the crop year, and the location affect the isoflavone content of soybeans (Wang and Murphy, 1994) and contribute to the large variability in the isoflavone content of soybeans, as well as soy foods. The soybean data, therefore, are presented divided into individual items from the following countries/regions: Australia (NDB No. 99574), Brazil (NDB No. 99030), China (NDB No. 99488), Europe (NDB No. 99575), Japan (NDB No. 99092), Korea (NDB No. 99093), Taiwan (NDB No. 99040), and the United States (NDB No. 99576). The "all sources" (NDB No. 16108) item contains aggregated data from all of the aforementioned countries. Individual data records aggregated to calculate the mean values for each of the above items are also included in the isoflavone database in the file "Soybean Detail" (Table 2). The method of extracting proteins (alcohol vs. aqueous) in the processing of various soy products also affects the isoflavone contents; alcohol extraction reducing the contents significantly.

Other phytoestrogens

Coumestrol (the most common coumestrol), though not an isoflavone, has a similar structure and competes with estradiol for cytoplasmic receptors in mammary tumor cells, biochanin A and formononetin, 4-methyl ether derivatives of genistein and daidzein respectively, are reduced to genistein and daidzein by the gut bacteria. These three compounds share the estrogenic/antiestrogenic, antioxidant, and antiproliferative activities of the prominent isoflavones (Mazur et al., 1996). Very few articles contained values for these three compounds. Therefore a separate table for their contents in foods

was prepared (p. 43).

Format of the Database

The USDA Database for the Isoflavone Content of Selected Foods is presented as a PDF file. A user will need the Adobe® Acrobat® reader to view the report of the database.

For the convenience of the user, the isoflavone database is imported into a Microsoft® Access database (Isoflav_R2.mdb). This database follows the same structure as that used for the SR. This will allow the user to use the database on his/her own computer with other applications that can read/access Microsoft® Access files.

This database contains values for individual isoflavone compounds for 557 foods and 245 foods with zero values. It also incorporates the values for coumestrol, biochanin A, and formononetin. The files in the database are as follows.

Food Description File (file name = FOOD_DES). This file (Table 2) contains the descriptions of the food items. For these items in the SR, additional information (e.g., common names, percentage, and description of refuse) can be obtained by linking this table to the corresponding table in SR.

- * Links to the Food Group Description file by RdGrp_Cd
- * Links to the Isoflavone Data file by NDB No.
- * Links to the Soybean Detail file by NDB No.

Table 2. Food Description File Format

Field Name	Description
NDB_No ¹	5-Digit Nutrient Databank number that uniquely identifies a food item. Foods in the USDA Database on the Isoflavone content of Foods which do not have corresponding entries in SR* are assigned NDB Nos. starting with either '99' or '97'.
FDGrp_Cd	4-digit code indicating food group to which the food item belongs
Long_Desc	Description of the food item

* For more information on SR, see the NDL Web site

{<http://www.ars.usda.gov/nutrientdata>} or contact the Nutrient Data Laboratory, 10300 Baltimore Avenue, Bldg. 005, Rm. 107, BARC-WEST, Beltsville, MD 20705, Tel. No. 301-504-0630, e-mail: ndlnfinfo@ars.usda.gov

¹Primary key for the food description file

Food Group Description File (file name = FD_GROUP). This file (Table 3) contains a list of food groups used in the isoflavone database and their descriptions.

- * Links to the Food Description file by RdGrp_Cd

Table 3.—Food Group Description File Format

Field Name	Description
FdGrp_Cd*	4-digit code identifying a food group. Only the first 2 digits are currently assigned. In the future, the last 2 digits may be used. Codes may not be consecutive
FdGrp_Desc	Name of food group

* Primary key for the Food Group Description file.

Isoflavone Data File (file name = ISFL_DAT). This file (Table 4) contains the isoflavone values and information about the values, including statistical information, confidence codes, and sources of data. It also includes data presented in separate tables on "Foods Containing Zero Values for Isoflavones" and "Coumestrol, Formononetin, and Biochanin-A in Selected Foods".

- Links to the Food Description file by NDB No.
- Links to the Nutrient Definition file by Nutr. No.
- Links to the Sources of Data file by DataSrc_ID though the Data Source Link file

Table 4.—Isoflavone Data File Format

Field Name	Description
NDB No.*	5-Digit Nutrient Databank number
Nutr_No*	Unique 3-digit identifier code for each isoflavone
Isfl_Val	The isoflavone value (mg/100 g) edible portion
SD	Standard deviation of the mean; null if could not be calculated
n	Number of data points used in calculating the value and SE
Min	Minimum value (mg/100 g) from data points used
Max	Maximum value (mg/100 g) from data points used
CC	Confidence Code, designated as A, B, C, or D as determined through the DQES
DataSrc_ID	Sources of Data. The full citation for each data source can be accessed by linking to the "Sources of Data" file through the "Source of Data Link" file

* Primary keys for Isoflavone Data file.

Nutrient Definition File (file name = NUTR_DEF). This file (Table 5) the nutrient number and the description of the isoflavone.

- Links to the Nutrient Data file by Nutr_No.

Table 5.—Nutrient Definition File Format

Field Name	Description
Nutr_No*	Unique 3-digit identifier code for each isoflavone
Description	Name of the isoflavone
Unit	Units of measure (e.g. mg)

* Primary key for Nutrient Definition file.

Sources of Data Link File (file name = DATSRCLN). This file (Table 6) is used to link the Nutrient Data file with the Sources of Data file. It is needed to resolve the many-to-many relationship between the two files.

- Links to the Nutrient Data file by NDB No. and Nutr_No.
- Links to the Sources of Data file by DataSrc_ID.

Table 6.—Sources of Data Link File Format

Field Name	Description
NDB_No*	5-digit Nutrient Databank number
Nutr_No*	Unique 3-digit identifier code for a nutrient
DataSrc_ID*	Unique ID identifying the reference/source

* Primary keys for the Sources of Data Link file.

Sources of Data File (file name = DATA_SRC). This file (Table 7) provides a citation to the DataSrc_ID in the Sources of Data Link file.

- Links to Isoflavone Data file by NDB No. through the Sources of Data Link file

Table 7.—Sources of Data File Format

Field Name	Description
DataSrc_ID*	Unique number identifying the reference/source
Authors	List of authors for a journal article or name of sponsoring organization for other documents
Title	Title of article or name of document, such as a report from a company or trade association
Year	Year article or document was published

CC Confidence Code indicating data quality, based on evaluation of sample plan, sample handling, analytical method, analytical quality control, and number of samples analyzed (DQES)
 * Primary keys for Soybean Detail file.

Sources of data

A complete list of the data sources from which the isoflavone values in the database were obtained is provided and corresponds to the information provided in the "Sources of Data" file (Table 7). It is also referenced in the Reference No. column in the data tables. Published references list authors, title, journal citation, as well as foods and isoflavones analyzed. Sources of unpublished data are also provided.

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Journal Name of the journal in which the article was published
 Vol Volume number for journal articles, books, or reports
 Start_Page Starting page number of article/document
 End_Page Ending page number of article/document
 * Primary key for the Sources of Data file.

Soybean Detail File (file name – SYBN_DTL). The Soybean Detail file (Table 8) contains the individual data records aggregated to calculate the mean values for raw soybeans from different countries/regions presented in the Isoflavone Data file (Table 8)

Table 8 –Soybean Detail File Format

Field Name	Description
MDN_No_*	5-Digit Nutrient Databank number. Can be linked to the Food Description file, to access the name used in the database for the aggregated data
Nutr_No*	Unique 3-digit identifier code for an isoflavone. Links to the Nutrient Definition Table for Nutrient Descriptions
DataSrc_ID*	A unique ID identifying the data source document. The full citation for each data source can be accessed by linking to the "Sources of Data" file through the "Source of Data Link" file
FoodNo*	A unique identifier indicating a specific food item within the data source document
Food_Detail_Desc	The description of the specific food items used in the data source document
NutrVal	The isoflavone value (mg/100 g, edible portion) given in the data source, converted to the aglycone form
StdDev	The standard deviation of the mean given in the data source, converted to the aglycone form
Num_Data_Pts	The number of data points given in the data source
SampHand_Rtg	DQES rating for sample handling based on the evaluation of information published in the data source document
AnalMeth_Rtg	DQES rating for analytical method based on evaluation of information published in the data source document
SampPlan_Rtg	DQES rating for the sampling plan based on evaluation of information published in the data source document
AnalQC_Rtg	DQES rating for analytical quality control based on evaluation of information published in the data source document
NumSamp_Rtg	DQES rating for the number of samples based on evaluation of information published in the data source document

(Units = mg/100 g, edible portion for Mean, Standard Deviation, Min and Max, N = number samples analyzed;
CC = Confidence Code)

CC = Confidentiality Code									
NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
01 - Dairy and Eggs									
01123	Egg, whole, raw, fresh	Daidzein	0.03	1				D	31
		Genistein	0.02	1				D	31
		Total isoflavones	0.05	1				D	31
43528	Ensure plus, liquid nutrition	Daidzein	0.20	2	0.10	0.30	C	91	
		Genistein	0.35	2	0.20	0.50	C	91	
		Glycitein	0.00	2	0.00	0.00	C	91	
99485	Ensure, liquid nutrition	Total isoflavones	0.60	2	0.40	0.80	C	91	
		Daidzein	1.40	4	1.34	0.20	2.80	C	91
		Genistein	2.58	4	2.53	0.40	5.10	C	91
		Glycitein	0.28	4	0.32	0.00	0.80	C	91
		Total isoflavones	4.33	4	4.16	0.70	8.50	C	91
		Daidzein	0.05	1				D	31
99533	Non-dairy creamer, with added soy flour or soy protein	Genistein	0.14	1				D	31
		Total isoflavones	0.21	1				D	31
02 - Spices and Herbs									
02019	Spices, fenugreek seed	Daidzein	0.01	3	0.00	0.01	0.01	C	57
		Genistein	0.01	3	0.00	0.01	0.01	C	57
		Total isoflavones	0.02	3	0.00	0.02	0.02	C	57
03 - Baby Food									
03943	Infant formula, ABBOTT NUTRITION, SIMILAC, ISOMIL, with iron, powder, not reconstituted	Daidzein	6.03	6	0.00	6.03	6.03	B	69.70
		Genistein	12.23	6	0.51	11.43	13.03	B	69.70
		Glycitein	2.73	6	0.02	2.70	2.77	B	69.70
03941	Infant formula, ABBOTT NUTRITION, SIMILAC, ISOMIL, with iron, ready-to-feed	Total isoflavones	25.82	11	2.85	20.17	31.60	A	69.70.85
		Daidzein	0.73	11	0.41	0.39	1.91	A	37.88
		Genistein	1.37	11	0.37	0.88	2.28	A	37.88
03931	Infant formula, ENFAMIL NEXT STEP, powder, soy formula, not reconstituted	Glycitein	0.12	10	0.02	0.09	0.14	A	37
		Total isoflavones	2.21	11	0.74	1.34	4.17	A	37.88
		Daidzein	7.23	4	0.08	7.15	7.30	B	69.70
03991	Infant formula, PBM PRODUCTS, ULTRA BRIGHT BEGINNINGS, soy, liquid concentrate, (formerly WYETH-AYERST)	Genistein	14.75	4	0.20	14.50	15.00	B	69.70
		Glycitein	3.00	4	0.04	2.95	3.05	B	69.70
		Total isoflavones	25.00	4	0.08	24.90	25.10	B	69.70
03993	Infant formula, PBM PRODUCTS, ULTRA BRIGHT BEGINNINGS, soy, powder, (formerly WYETH-AYERST)	Daidzein	0.88	5	0.16	0.79	1.25	B	70.75
		Genistein	2.69	5	0.46	2.19	3.45	B	70.75
		Glycitein	0.35	2		0.35	0.35	B	70
		Total isoflavones	3.81	5	0.75	2.98	5.05	B	70.75
		Daidzein	5.70	2	5.70	5.70	B	70	
		Genistein	13.55	2	13.55	13.55	B	70	
		Glycitein	2.05	2	2.05	2.05	B	70	
		Total isoflavones	28.01	7	2.95	21.30	30.70	B	70.85

(Units = mg/100 g, edible portion for Mean, Standard Deviation, Min and Max, N = number samples analyzed;
CC = Confidence Code)

CC-0 - Confidential (Cook)

NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
04 - Fats and Oils									
42178	Mayonnaise, made with tofu	Daidzein	5.50	5	0.00	5.50	5.50	C	64
		Genistein	11.30	5	0.00	11.30	11.30	C	64
		Total isoflavones	16.80	5	0.00	16.80	16.80	C	64
99423	Olive oil, extra-virgin	Daidzein	0.01	1				C	89
		Genistein	0.03	1				C	89
		Glycitein	0.00	1				C	89
		Total isoflavones	0.04	1				C	89
05 - Poultry Products									
05327	Chicken breast tenders, uncooked	Daidzein	0.20	2		0.10	0.30	C	91
		Genistein	0.25	2		0.20	0.30	C	91
		Glycitein	0.00	2		0.00	0.00	C	91
		Total isoflavones	0.55	2		0.40	0.70	C	91
05323	Chicken patty, frozen, uncooked	Daidzein	0.25	2		0.20	0.30	C	91
		Genistein	0.30	2		0.30	0.30	C	91
		Glycitein	0.00	2		0.00	0.00	C	91
		Total isoflavones	0.55	2		0.50	0.60	C	91
06 - Soups, Sauces, and Gravies									
99503	Black bean, sauce	Daidzein	5.98	2		2.30	8.62	C	31.89
		Genistein	4.04	2		2.49	5.58	C	31.89
		Glycitein	0.53	1				C	89
		Total isoflavones	10.26	2		5.32	15.19	C	31.89
06125	Gravy, turkey, canned, ready-to-serve	Daidzein	0.15	2		0.00	0.30	C	91
		Genistein	0.15	2		0.00	0.30	C	91
		Glycitein	0.05	2		0.00	0.10	C	91
		Total isoflavones	0.35	2		0.00	0.70	C	91
99494	Miso soup	Daidzein	0.78	2		0.43	1.13	C	31.89
		Genistein	0.73	2		0.44	1.01	C	31.89
		Glycitein	0.03	1				C	89
		Total isoflavones	1.52	2		1.47	1.56	C	31.89
99002	Miso soup mix, dry	Daidzein	29.84	7	12.59	20.75	59.30	B	13.50
		Genistein	40.00	7	11.46	33.69	67.20	B	13.50
		Total isoflavones	69.84	7	24.01	54.44	126.50	B	13.50

(Units = mg/100 g, edible portion for Mean, Standard Deviation, Min and Max; N = number samples analyzed;
CC = Confidence Code)

US - Commercial Code									
NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
99543	Sauce mix, Betty Crocker, Hamburger Helper	Daidzein	0.10	2		0.10	0.10	C	91
		Genistein	0.10	2		0.10	0.10	C	91
		Glycitein	0.00	2		0.00	0.00	C	91
		Total isoflavones	0.20	2		0.20	0.20	C	91
		Daidzein	0.15	2		0.10	0.20	C	91
99544	Sauce mix, Scalloped potatoes	Genistein	0.25	2		0.20	0.30	C	91
		Glycitein	0.00	2		0.00	0.00	C	91
		Total isoflavones	0.45	2		0.40	0.50	C	91
		Daidzein	1.40	1				C	91
		Genistein	1.10	1				C	91
99547	Sauce mix, Rice-A-Roni, chicken flavor	Glycitein	0.20	1				C	91
		Total isoflavones	2.70	1				C	91
		Daidzein	6.10	2	2.20	10.00	C	91	
		Genistein	3.25	2	1.70	4.80	C	91	
		Glycitein	0.55	2	0.20	0.90	C	91	
08175	Sauce, hoisin, ready-to-serve	Total isoflavones	9.90	2	4.10	15.70	C	91	
		Daidzein	0.10	1			C	91	
		Genistein	0.00	1			C	91	
		Glycitein	0.00	1			C	91	
		Total isoflavones	0.20	1			C	91	
06016	Soup, cream of chicken, canned, condensed	Daidzein	0.00	1			C	91	
		Genistein	0.10	1			C	91	
		Glycitein	0.00	1			C	91	
		Total isoflavones	0.10	1			C	91	
		Daidzein	0.73	3	0.53	0.40	1.40	C	91
06982	Soup, ramen noodle, beef flavor, dry	Genistein	0.43	3	0.53	0.10	1.10	C	91
		Glycitein	0.07	3	0.11	0.00	0.20	C	91
		Total isoflavones	1.23	3	1.16	0.50	2.70	C	91
		Daidzein	0.00	1			C	91	
		Genistein	0.30	1			C	91	
08983	Soup, ramen noodle, chicken flavor, dry	Glycitein	0.00	1			C	91	
		Total isoflavones	0.40	1			C	91	
		Daidzein	1.00	1			C	91	
		Genistein	0.80	1			C	91	
		Glycitein	0.10	1			C	91	
07 - Sausages and Luncheon Meats									
07022	Frankfurter, beef	Daidzein	1.00	1				C	91
		Genistein	0.80	1				C	91
		Glycitein	0.10	1				C	91

(Units = mg/100 g, edible portion for Mean, Standard Deviation, Min and Max; N = number samples analyzed;
CC = Confidence Code)

CC - Caffeine (mg)										
NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.	
07023	Frankfurter, beef and pork	Total isoflavones	1.90	1				C	91	
		Daidzein	0.05	2		0.00	0.10	C	89,91	
		Genistein	0.05	2		0.00	0.10	C	89,91	
		Glycitein	0.00	2		0.00	0.00	C	89,91	
99506	Frankfurter, beef, fat free	Total isoflavones	0.15	2		0.00	0.30	C	89,91	
		Daidzein	0.80	1				C	91	
		Genistein	1.00	1				C	91	
		Glycitein	0.10	1				C	91	
99507	Frankfurter, pork and chicken, lite	Total isoflavones	1.70	1				C	91	
		Daidzein	0.00	1				C	91	
		Genistein	0.10	1				C	91	
		Glycitein	0.00	1				C	91	
07075	Sausage, smoked link sausage, pork and beef	Total isoflavones	0.10	1				C	91	
		Daidzein	0.25	2		0.20	0.30	C	91	
		Genistein	0.40	2		0.30	0.50	C	91	
		Glycitein	0.00	2		0.00	0.00	C	91	
		Total isoflavones	0.70	2		0.60	0.80	C	91	
		08 - Breakfast Cereals								
		08393	Cereals ready-to-eat, KASHI GOLEAN by Kellogg	Daidzein	8.40	1				C
Genistein	7.70			1				C	91	
Glycitein	1.40			1				C	91	
Total isoflavones	17.40			1				C	91	
99478	Cereals ready-to-eat, KELLOGG, KELLOGG'S COCO POPS (Purchased in the United Kingdom)	Daidzein	0.00	1				B	49	
		Genistein	0.01	1				B	49	
		Total isoflavones	0.01	1				B	49	
		Daidzein	0.01	1				B	49	
99479	Cereals ready-to-eat, KELLOGG, KELLOGG'S CRUNCHY NUT CORN FLAKES (Purchased in the United Kingdom)	Daidzein	0.01	1				B	49	
		Genistein	0.02	1				B	49	
		Total isoflavones	0.03	1				B	49	
		Daidzein	0.01	1				B	49	
99483	Cereals ready-to-eat, KELLOGG, KELLOGG'S START (Purchased in the United Kingdom)	Daidzein	0.01	1				B	49	
		Genistein	0.01	1				B	49	
		Total isoflavones	0.02	1				B	49	
		Daidzein	41.90	1				C	91	
08385	Cereals ready-to-eat, KELLOGG'S, SMART START Soy Protein	Genistein	41.90	1				C	91	
		Glycitein	10.20	1				C	91	
		Total isoflavones	93.90	1				C	91	

(Units = mg/100 g, edible portion for Mean, Standard Deviation, Min and Max; N = number samples analyzed;
CC = Confidence Code)

NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
59532	Cereals ready-to-eat, NESTLES SHREDDIES (Purchased in the United Kingdom)	Daidzein	0.02	2	0.00	0.00	0.04	B	49
		Genistein	0.04	2	0.00	0.00	0.08	B	49
		Total isoflavones	0.06	2	0.00	0.00	0.11	B	49
59531	Museli	Daidzein	0.01	4	0.01	0.00	0.02	B	49
		Genistein	0.01	4	0.01	0.00	0.03	B	49
		Total isoflavones	0.02	4	0.02	0.00	0.05	B	49
09 - Fruits and Fruit Juices									
09032	Apricots, dried, sulfured, uncooked	Daidzein	0.00	3	0.01	0.00	0.01	C	31,51,89
		Genistein	0.01	3	0.01	0.00	0.02	C	31,51,89
		Glycitein	0.00	1				C	89
		Total isoflavones	0.02	3	0.02	0.00	0.03	C	31,51,89
99521	Cranberries, boiled	Daidzein	0.00	1				D	89
		Genistein	0.01	1				D	89
		Glycitein	0.00	1				D	89
		Total isoflavones	0.01	1				D	89
99073	Currents, dried	Daidzein	0.00	1				D	89
		Genistein	0.01	1				D	89
		Glycitein	0.00	1				D	89
		Total isoflavones	0.01	1				D	89
09083	Currents, european black, raw	Daidzein	0.02	3	0.03	0.00	0.05	B	51,56,89
		Genistein	0.06	3	0.10	0.00	0.18	B	51,56,89
		Glycitein	0.00	1				C	89
		Total isoflavones	0.07	3	0.13	0.00	0.22	B	51,56,89
09087	Dates, deglet noor	Daidzein	0.00	2		0.00	0.00	C	51,89
		Genistein	0.01	2		0.00	0.01	C	51,89
		Glycitein	0.00	1				C	89
		Total isoflavones	0.01	2		0.00	0.01	C	51,89
09116	Grapefruit, raw, white, all areas	Daidzein	0.04	1				D	31
		Genistein	0.03	1				D	31
		Total isoflavones	0.06	1				D	31
09209	Orange juice, chilled, includes from concentrate	Daidzein	0.01	3	0.01	0.00	0.02	C	31,51,89
		Genistein	0.01	3	0.01	0.00	0.02	C	31,51,89
		Glycitein	0.00	1				C	89
		Total isoflavones	0.01	3	0.02	0.00	0.04	C	31,51,89
09231	Passion-fruit, (granadilla), purple, raw	Daidzein	0.01	1				B	51
		Genistein	0.01	1				B	51
		Total isoflavones	0.02	1				B	51
09292	Plums, dried (prunes),	Daidzein	0.00	1				B	51

(Units = mg/100 g, edible portion for Mean, Standard Deviation, Min and Max; N = number samples analyzed;
CC = Confidence Code)

NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
09298	Raisins, seedless	Daidzein	0.03	3	0.03	0.00	0.06	C	31,51,89
		Genistein	0.05	3	0.08	0.01	0.12	C	31,51,89
		Glycitein	0.00	1				C	89
		Total isoflavones	0.08	3	0.09	0.01	0.19	C	31,51,89
11 - Vegetables and Vegetable Products									
11001	Alfalfa seeds, sprouted, raw	Daidzein	0.02	8	0.05	0.00	0.15	B	24,31,66,89
		Genistein	0.02	8	0.04	0.00	0.12	B	24,31,66,89
		Glycitein	0.00	6	0.00	0.00	0.00	B	68,89
		Total isoflavones	0.04	8	0.09	0.00	0.27	B	24,31,66,89
11011	Asparagus, raw	Daidzein	0.03	2		0.00	0.06	C	31,50
		Genistein	0.00	2		0.00	0.00	C	31,50
		Total isoflavones	0.03	2		0.00	0.06	C	31,50
11053	Beans, snap, green, cooked, boiled, drained, without salt	Daidzein	0.01	4	0.01	0.00	0.01	B	24,50,89
		Genistein	0.02	4	0.02	0.00	0.03	B	24,50,89
		Glycitein	0.00	1				C	89
		Total isoflavones	0.03	4	0.02	0.00	0.04	B	24,50,89
11060	Beans, snap, green, frozen, all styles, unprepared	Daidzein	0.00	1		0.00	0.00	B	50
		Genistein	0.01	1		0.01	0.01	B	50
		Total isoflavones	0.02	1		0.02	0.02	B	50
11061	Beans, snap, green, frozen, cooked, boiled, drained without salt	Daidzein	0.01	1		0.01	0.01	B	50
		Genistein	0.02	1		0.02	0.02	B	50
		Total isoflavones	0.03	1		0.03	0.03	B	50
11062	Beans, snap, green, raw	Daidzein	0.01	4	0.01	0.00	0.01	B	24,31,50
		Genistein	0.01	4	0.01	0.00	0.03	B	24,31,50
		Total isoflavones	0.02	4	0.02	0.00	0.04	B	24,31,50
99549	Broccoli sprouts, raw	Daidzein	0.04	1				D	31
		Genistein	0.00	1				D	31
		Total isoflavones	0.04	1				D	31
99009	Clover sprouts, raw	Daidzein	0.04	2		0.00	0.07	C	24,31
		Genistein	0.21	2		0.07	0.35	C	24,31
		Total isoflavones	0.25	2		0.14	0.35	C	24,31
99571	Clover, red	Daidzein	11.00	13	0.00	11.00	11.00	B	46
		Genistein	10.00	13	0.00	10.00	10.00	B	46
		Total isoflavones	21.00	13	0.00	21.00	21.00	B	46
11215	Garlic, raw	Daidzein	0.01	2		0.00	0.01	C	31,89
		Genistein	0.02	2		0.01	0.02	C	31,89

USDA Database on the Isoflavone Content of Selected Foods, Release 2.0

(Units = mg/100 g, edible portion for Mean, Standard Deviation, Min and Max; N = number samples analyzed;
CC = Confidence Code)

NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
		Glycetin	0.00	1				C	89
		Total isoflavones	0.02	2		0.02	0.02	C	31,89
11043	Mung beans, mature seeds, sprouted, raw	Daidzein	0.06	11	0.12	0.00	0.39	B	31,50,84,73,89
		Genistein	0.08	11	0.15	0.00	0.42	B	31,50,84,73,89
		Glycetin	0.00	4	0.00	0.00	0.00	C	73,89
		Total isoflavones	0.10	10	0.24	0.00	0.81	B	31,64,73,89
11312	Peas, green, frozen, unprepared	Daidzein	0.00	1		0.00	0.00	B	50
		Genistein	0.01	1		0.01	0.01	B	50
		Total isoflavones	0.01	1		0.01	0.01	B	50
99469	Potatoes, new, raw	Daidzein	0.00	1		0.00	0.00	B	50
		Genistein	0.01	1		0.01	0.01	B	50
		Total isoflavones	0.01	1		0.01	0.01	B	50
11451	Soybeans, green, cooked, boiled, drained, without salt (includes edamame)	Daidzein	7.41	4	0.34	6.85	7.60	C	22,24
		Genistein	7.06	4	0.07	6.94	7.10	C	22,24
		Glycetin	4.60	3	0.01	4.60	4.60	C	22
		Total isoflavones	17.92	4	2.51	13.79	19.30	C	22,24
11450	Soybeans, green, raw (includes edamame)	Daidzein	20.34	35	12.80	0.01	54.90	B	2,24,34,88,73,87,100
		Genistein	22.57	35	16.92	0.04	62.07	B	2,24,34,88,73,87,100
		Glycetin	7.57	28	4.70	0.00	22.60	B	2,68,73,87,100
		Total isoflavones	48.95	35	30.32	0.05	120.94	B	2,24,34,88,73,87,100
11453	Soybeans, mature seeds, sprouted, cooked, steamed	Daidzein	5.00	2		5.00	5.00	C	22
		Genistein	6.70	2		6.70	6.70	C	22
		Glycetin	0.80	2		0.80	0.80	C	22
		Total isoflavones	12.50	2		12.50	12.50	C	22
11452	Soybeans, mature seeds, sprouted, raw	Daidzein	12.86	63	8.05	0.00	47.65	B	9,23,31,52,64,73,78,89,97
		Genistein	18.77	63	11.22	0.00	60.03	B	9,23,31,52,64,73,78,89,97
		Glycetin	2.88	49	1.59	0.00	8.41	B	52,73,89
		Total isoflavones	34.39	62	19.81	0.00	107.12	B	9,23,31,52,64,73,89,97
11507	Sweet potato, raw, unprepared	Daidzein	0.00	2		0.00	0.00	C	31,50
		Genistein	0.01	2		0.00	0.02	C	31,50
		Total isoflavones	0.01	2		0.00	0.02	C	31,50
11578	Vegetable juice cocktail, canned	Daidzein	0.00	1		0.00	0.00	D	89
		Genistein	0.01	1		0.01	0.01	D	89
		Glycetin	0.00	1		0.00	0.00	D	89
		Total isoflavones	0.01	1		0.01	0.01	D	89
12 - Nuts and Seeds									
12061	Nuts, almonds	Daidzein	0.00	2		0.00	0.00	C	51,89
		Genistein	0.01	2		0.00	0.01	C	51,89

USDA Database on the Isoflavone Content of Selected Foods, Release 2.0

(Units = mg/100 g, edible portion for Mean, Standard Deviation, Min and Max; N = number samples analyzed;
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NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
		Glycetin	0.00	1				C	89
		Total isoflavones	0.01	2		0.00	0.02	C	51,89
12087	Nuts, cashew nuts, raw	Daidzein	0.00	1				D	89
		Genistein	0.01	1				D	89
		Glycetin	0.00	1				D	89
		Total isoflavones	0.01	1				D	89
12101	Nuts, chestnuts, european, boiled and steamed	Daidzein	0.00	2		0.00	0.00	C	51,89
		Genistein	0.01	2		0.00	0.02	C	51,89
		Glycetin	0.00	1				C	89
		Total isoflavones	0.01	2		0.00	0.02	C	51,89
12104	Nuts, coconut meat, raw	Daidzein	0.01	1				B	51
		Genistein	0.01	1				B	51
		Total isoflavones	0.02	1				B	51
12120	Nuts, hazelnuts or filberts	Daidzein	0.01	2		0.00	0.01	C	51,89
		Genistein	0.02	2		0.02	0.02	C	51,89
		Glycetin	0.00	1				C	89
		Total isoflavones	0.03	2		0.02	0.03	C	51,89
12151	Nuts, pistachio nuts, raw	Daidzein	1.88	2		0.07	3.68	C	29,89
		Genistein	1.75	2		0.10	3.40	C	29,89
		Glycetin	0.00	1				C	89
		Total isoflavones	3.63	2		0.18	7.08	C	29,89
12155	Nuts, walnuts, english	Daidzein	0.02	2		0.00	0.04	C	51,89
		Genistein	0.01	2		0.00	0.02	C	51,89
		Glycetin	0.00	1				C	89
		Total isoflavones	0.03	2		0.00	0.05	C	51,89
12220	Seeds, flaxseed	Daidzein	0.02	4	0.03	0.00	0.06	C	59,89
		Genistein	0.04	4	0.08	0.00	0.17	C	59,89
		Glycetin	0.06	1				C	89
		Total isoflavones	0.07	4	0.13	0.00	0.29	C	59,89
13 - Beef Products									
23501	USDA Commodity, beef patties with VPP, frozen, cooked	Daidzein	0.87	5	0.33	0.30	1.05	B	66
		Genistein	1.09	5	0.42	0.50	1.65	B	66
		Glycetin	0.10	5	0.07	0.00	0.20	B	66
		Total isoflavones	1.88	5	0.78	0.80	2.90	B	66
23506	USDA Commodity, beef patties with VPP, frozen, raw	Daidzein	0.35	5	0.17	0.20	0.55	B	66
		Genistein	0.77	5	0.28	0.35	1.10	B	66
		Glycetin	0.02	5	0.04	0.00	0.10	B	66

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NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
14 – Beverages									
14209	Coffee, brewed from grounds, prepared with tap water	Total isoflavones	1.14	5	0.48	0.55	1.75	B	66
		Daidzein	0.03	2		0.00	0.05	C	31,89
		Genistein	0.01	2		0.00	0.02	C	31,89
		Glycitein	0.00	1				C	89
	Total isoflavones		0.04	2		0.00	0.07	C	31,89
		Daidzein	0.02	3	0.00	0.02	0.02	C	59
		Genistein	0.03	3	0.00	0.03	0.03	C	59
		Total isoflavones	0.05	3	0.00	0.05	0.05	C	59
99107	Tea, green, Japan	Daidzein	0.01	2		0.00	0.01	C	31,58
		Genistein	0.02	2		0.00	0.04	C	31,58
		Total isoflavones	0.02	2		0.00	0.05	C	31,58
		Daidzein	0.01	1				C	58
99108	Tea, Jasmine, Twinings	Genistein	0.03	1				C	58
		Total isoflavones	0.05	1				C	58
15 – Finfish and Shellfish Products									
15138	Crustaceans, crab, Alaska king, imitation, made from surimi	Daidzein	0.05	2		0.00	0.10	C	91
		Genistein	0.05	2		0.00	0.10	C	91
		Glycitein	0.00	2		0.00	0.00	C	91
		Total isoflavones	0.10	2		0.00	0.20	C	91
15184	Fish, tuna, light, canned in water, without salt, drained solids	Daidzein	0.04	8	0.07	0.00	0.20	B	89,91
		Genistein	0.05	8	0.11	0.00	0.30	B	89,91
		Glycitein	0.00	8	0.00	0.00	0.00	B	89,91
		Total isoflavones	0.09	8	0.17	0.00	0.50	B	89,91
15185	Fish, tuna, white, canned in oil, without salt, drained solids	Daidzein	0.12	6	0.24	0.00	0.60	C	91
		Genistein	0.15	6	0.37	0.00	0.90	C	91
		Glycitein	0.02	6	0.04	0.00	0.10	C	91
		Total isoflavones	0.28	6	0.65	0.00	1.60	C	91
16 – Legumes and Legume Products									
43212	Bacon bits, meatless	Daidzein	64.37	3	23.35	49.60	93.90	C	91
		Genistein	45.77	3	0.11	45.70	45.90	C	91
		Glycitein	8.33	3	1.32	7.50	10.00	C	91
		Total isoflavones	118.50	3	24.62	102.80	149.90	C	91
18104	Bacon, meatless	Daidzein	2.20	5	0.73	1.00	2.80	C	89,91,95
		Genistein	5.66	5	1.65	2.70	6.50	C	89,91,95
		Glycitein	1.50	5	1.06	0.10	2.40	C	89,91,95
		Total isoflavones	9.36	5	3.26	4.50	12.10	C	89,91,95
18001	Beans, adzuki, mature seeds, raw	Daidzein	0.36	9	0.16	0.00	0.57	B	61,73
		Genistein	0.23	9	0.10	0.00	0.36	B	61,73
		Glycitein	0.00	6	0.00	0.00	0.00	C	73

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NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
16006	Beans, baked, canned, plain or vegetarian	Total isoflavones	0.59	9	0.25	0.00	0.91	B	61,73
		Daidzein	0.00	4	0.00	0.00	0.00	B	50,89,99
		Genistein	0.01	4	0.01	0.00	0.01	B	50,89,99
		Glycitein	0.00	2	0.00	0.00	0.00	C	89,99
16014	Beans, black, mature seeds, raw	Total isoflavones	0.01	4	0.01	0.00	0.01	B	50,89,99
		Daidzein	0.01	3	0.01	0.00	0.02	C	2,24,31
		Genistein	0.00	3	0.00	0.00	0.00	C	2,24,31
		Glycitein	0.00	1				C	2
99498	Beans, common, raw (Phaseolus vulgaris)	Total isoflavones	0.01	3	0.01	0.00	0.02	C	2,24,31
		Daidzein	0.29	9	0.25	0.01	0.80	C	2,82
		Genistein	0.30	9	0.17	0.04	0.80	C	2,82
		Glycitein	0.00	3	0.01	0.00	0.01	C	2
16018	Beans, cranberry (roman), mature seeds, raw	Total isoflavones	0.59	9	0.42	0.09	1.40	C	2,82
		Daidzein	0.00	1				C	2
		Genistein	0.00	1				C	2
		Glycitein	0.01	1				C	2
16033	Beans, kidney, red, mature seeds, cooked, boiled, without salt	Total isoflavones	0.01	1				C	2
		Daidzein	0.01	2	0.00	0.00	0.01	B	24,50
		Genistein	0.01	2		0.00	0.01	B	24,50
		Total isoflavones	0.01	2		0.00	0.02	B	24,50
16032	Beans, kidney, red, mature seeds, raw	Daidzein	0.01	2		0.01	0.02	B	50,57
		Genistein	0.01	2		0.00	0.02	B	50,57
		Total isoflavones	0.02	2		0.01	0.04	B	50,57
		Daidzein	0.01	2		0.00	0.01	C	24,57
16037	Beans, navy, mature seeds, raw	Genistein	0.20	2		0.00	0.41	C	24,57
		Total isoflavones	0.21	2		0.00	0.42	C	24,57
		Daidzein	0.01	3	0.01	0.00	0.02	C	24,31,57
		Genistein	0.17	3	0.30	0.00	0.52	C	24,31,57
16042	Beans, pinto, mature seeds, raw	Total isoflavones	0.18	3	0.31	0.00	0.54	C	24,31,57
		Daidzein	0.00	2		0.00	0.00	C	24,31
		Genistein	0.16	2		0.00	0.31	C	24,31
		Total isoflavones	0.16	2		0.00	0.31	C	24,31
99028	Beans, red, mature seeds, raw	Daidzein	0.04	1				B	50
		Genistein	0.05	1				B	50
		Total isoflavones	0.09	1				B	50
		Daidzein	0.05	5	0.07	0.00	0.17	B	50,73
99432	Beans, scarlet runner, mature seeds, raw	Genistein	0.07	5	0.09	0.00	0.23	B	50,73
		Glycitein	0.00	3	0.00	0.00	0.00	C	73
		Total isoflavones	0.12	5	0.16	0.00	0.39	B	50,73

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NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
16045	Beans, small white, mature seeds, raw	Daidzein	0.00	2		0.00	0.00	C	24,31
		Genistein	0.37	2		0.00	0.74	C	24,31
		Total Isoflavones	0.37	2		0.00	0.74	C	24,31
16050	Beans, white, mature seeds, cooked, boiled, without salt	Daidzein	0.01	1				D	88
		Genistein	0.03	1				D	88
		Glycitein	0.00	1				D	88
		Total Isoflavones	0.04	1				D	88
16049	Beans, white, mature seeds, raw	Daidzein	0.00	1				C	2
		Genistein	0.01	1				C	2
		Glycitein	0.01	1				C	2
		Total Isoflavones	0.02	1				C	2
16047	Beans, yellow, mature seeds, raw	Daidzein	0.28	7	0.12	0.00	0.40	C	2,82
		Genistein	0.17	7	0.07	0.00	0.20	C	2,82
		Glycitein	0.00	1				C	2
		Total Isoflavones	0.43	7	0.19	0.00	0.60	C	2,82
59008	Broadbeans (fava beans), mature seeds, dried	Daidzein	0.00	1				C	24
		Genistein	1.29	1				C	24
		Total Isoflavones	1.29	1				C	24
16052	Broadbeans (fava beans), mature seeds, raw	Daidzein	0.33	10	1.00	0.00	3.27	B	2,50,57,61,73
		Genistein	0.15	13	0.52	0.00	1.93	B	2,25,50,57,61,73
		Glycitein	0.28	4	0.50	0.00	1.10	B	2,73
		Total Isoflavones	0.63	10	1.93	0.00	6.30	B	2,50,57,61,73
16173	Chicken nuggets, meatless, canned, prepared (WORTHINGTON FrChik)	Daidzein	4.35	1				B	66
		Genistein	9.35	1				B	66
		Glycitein	0.90	1				B	66
		Total Isoflavones	14.60	1				B	66
16513	Chicken nuggets, meatless, canned, unprepared (WORTHINGTON FrChik)	Daidzein	3.45	1				B	66
		Genistein	7.90	1				B	66
		Glycitein	0.85	1				B	66
		Total Isoflavones	12.20	1				B	66
16557	Chicken patties, meatless (MORNINGSTAR FARMS Chik Patties Original)	Daidzein	1.80	1				C	91
		Genistein	2.20	1				C	91
		Glycitein	0.40	1				C	91
		Total Isoflavones	4.40	1				C	91
16057	Chickpeas (garbanzo beans, bengal gram), mature seeds, cooked, boiled, without salt	Daidzein	0.00	1				B	50
		Genistein	0.02	1				B	50
		Total Isoflavones	0.02	1				B	50

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NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
18056	Chickpeas (garbanzo beans, bengal gram), mature seeds, raw	Daidzein	0.23	10	0.20	0.00	0.65	B	2,24,31,50,57,73
		Genistein	0.08	10	0.04	0.00	0.14	B	2,24,31,50,57,73
		Glycitein	0.22	4	0.41	0.00	0.89	B	2,73
		Total Isoflavones	0.38	10	0.31	0.00	1.06	B	2,24,31,50,57,73
18062	Corpeas, common (blackeyes, crowder, southern), mature seeds, raw	Daidzein	0.01	4	0.01	0.00	0.03	C	24,31,57
		Genistein	0.02	4	0.02	0.00	0.03	C	24,31,57
		Total Isoflavones	0.03	4	0.03	0.00	0.06	C	24,31,57
43130	Frankfurter, meatless (purchased in Germany)	Daidzein	5.78	6	0.00	5.78	5.78	C	81
		Genistein	6.43	6	0.00	6.43	6.43	C	81
		Glycitein	0.06	6	0.00	0.06	0.06	C	81
		Total Isoflavones	12.27	6	0.00	12.27	12.27	C	81
22116	Franks, meatless, canned, prepared (LOMA LINDA Big Franks)	Daidzein	1.35	1				B	66
		Genistein	2.00	1				B	66
		Glycitein	0.40	1				B	66
		Total Isoflavones	3.75	1				B	66
22126	Franks, meatless, canned, unprepared (LOMA LINDA Big Franks)	Daidzein	1.00	1				B	66
		Genistein	2.05	1				B	66
		Glycitein	0.30	1				B	66
		Total Isoflavones	3.35	1				B	66
16158	Hummus, commercial	Daidzein	0.00	1				D	89
		Genistein	0.01	1				D	89
		Glycitein	0.00	1				D	89
		Total Isoflavones	0.01	1				D	89
99018	Instant beverage, soy, powder, not reconstituted	Daidzein	40.07	18	8.23	29.50	70.00	B	13,95,101
		Genistein	62.18	18	3.69	55.00	73.15	B	13,95,101
		Glycitein	10.90	12	0.15	10.50	11.10	B	95
		Total Isoflavones	109.51	18	5.48	100.10	125.00	B	13,95,101
99019	Kala chana, mature seeds, raw	Daidzein	0.00	1				C	24
		Genistein	0.64	1				C	24
		Total Isoflavones	0.64	1				C	24
16069	Lentils, raw	Daidzein	0.01	8	0.02	0.00	0.06	B	2,24,31,50,57
		Genistein	0.05	8	0.12	0.00	0.36	B	2,24,31,50,57
		Glycitein	0.00	2		0.00	0.00	C	2
		Total Isoflavones	0.06	8	0.14	0.00	0.42	B	2,24,31,50,57
16072	Lima beans, large, mature seeds, cooked, boiled, without salt	Daidzein	0.01	3	0.02	0.00	0.03	B	24,50
		Genistein	0.03	3	0.05	0.00	0.08	B	24,50
		Total Isoflavones	0.01	2		0.00	0.01	B	24,50
16076	Lupinus, mature seeds, raw	Daidzein	0.10	1				C	2
		Genistein	0.15	1				C	2

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USDA - Compliance Checklist										
NDB No.	Food Description	Nutrient	Mean	SD	Min	Max	CC	Reference No.		
16112	Miso	Glycine	0.00	1			C 2			
		Total isoflavones	0.25	1			C 2			
		Daidzein	16.43	72	7.69	1.81	47.12	B	8,13,22,55,61,66,74,89,90,95,102	
		Genistein	23.24	78	8.37	1.45	52.40	B	8,13,22,25,55,61,66,74,89,90,95,102	
16081	Mung beans, mature seeds, cooked, boiled, without salt	Glycine	3.00	41	0.81	5.34	B	22,66,74,89,90,95		
		Total isoflavones	41.45	72	16.17	3.26	99.52	B	8,13,22,55,61,66,74,89,90,95,102	
		Daidzein	0.01	2	0.00	0.01	0.01	C	50,89	
		Genistein	0.01	2	0.00	0.01	0.01	C	50,89	
		Glycine	0.00	1			C	89		
		Total isoflavones	0.01	2	0.00	0.02	C	50,89		
		Daidzein	0.00	13	0.00	0.01	B	24,50,57,64,73		
		Genistein	0.09	13	0.09	0.00	0.37	B	24,50,57,64,73	
		Glycine	0.00	3	0.00	0.00	B	73		
		Total isoflavones	0.09	13	0.10	0.00	0.38	B	24,50,57,64,73	
		Daidzein	0.01	7	0.01	0.00	0.02	B	24,57,73	
		Genistein	0.01	7	0.01	0.00	0.03	B	24,57,73	
		Glycine	0.00	3	0.00	0.00	C	73		
		Total isoflavones	0.02	7	0.02	0.00	0.05	B	24,57,73	
		Daidzein	33.22	21	9.48	16.02	55.30	B	9,22,66,68,74,90	
		Genistein	37.66	27	7.85	21.52	59.37	B	9,22,66,68,74,90	
		Glycine	10.55	18	3.74	3.67	19.80	A	22,66,68,74,90	
		Total isoflavones	82.29	21	18.60	48.40	124.10	B	9,22,66,68,74,90	
		Daidzein	6.60	3	0.00	6.60	6.60	B	34	
		Genistein	3.10	3	0.00	3.10	3.10	B	34	
59498	Oncom	Total isoflavones	9.70	3	0.00	9.70	9.70	B	34	
		Daidzein	5.50	3	0.00	5.50	5.50	B	34	
		Genistein	1.00	3	0.00	1.00	1.00	B	34	
		Total isoflavones	6.50	3	0.00	6.50	6.50	B	34	
59499	Oncom, fried	Daidzein	0.00	2	0.00	0.00	C	31,51		
		Genistein	0.01	2	0.00	0.01	C	31,51		
		Total isoflavones	0.01	2	0.00	0.01	C	31,51		
		Daidzein	1.30	4	0.93	0.03	2.20	C	89,91	
16150	Peanut butter, smooth, reduced fat	Genistein	0.69	4	0.67	0.04	1.60	C	89,91	
		Glycine	0.08	4	0.05	0.00	0.10	C	89,91	
		Total isoflavones	2.09	4	1.62	0.04	4.00	C	89,91	
		Daidzein	0.00	1			B	51		
16090	Peanuts, all types, dry-roasted, with salt	Genistein	0.02	1			B	51		
		Total isoflavones	0.02	1			B	5		
		Daidzein	0.02	9	0.01	0.01	0.05	B	51,57	

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NDB No.	Food Description	Nutrient	CC - Compliance Code				Max	CC Reference No.
			Mean	n	SD	Min		
16088	Peas, split, mature seeds, cooked, boiled, without salt	Genistein	0.24	9	0.11	0.02	0.39	B 51,57
		Total isoflavones	0.26	9	0.11	0.02	0.39	B 51,57
		Daidzein	0.00	2	0.00	0.00	0.00	B 50
		Genistein	0.01	2	0.01	0.01	0.01	B 50
16085	Peas, split, mature seeds, raw	Total isoflavones	0.02	2	0.01	0.01	0.02	B 50
		Daidzein	0.33	22	1.53	0.00	7.26	B 24,31,50,57,61,73
		Genistein	0.11	22	0.17	0.00	0.80	B 24,31,50,57,61,73
		Glycetin	0.00	9	0.00	0.00	0.00	B 73
16101	Pigeon peas (red gram), mature seeds, raw	Total isoflavones	0.44	22	1.52	0.00	7.26	B 24,31,50,57,61,73
		Daidzein	0.02	3	0.00	0.02	0.02	C 57
		Genistein	0.54	3	0.00	0.54	0.54	C 57
		Total isoflavones	0.56	3	0.00	0.56	0.56	C 57
59573	Sausage links, meatless, prepared (MORNINGSTAR FARMS Veggie Sausage Links)	Daidzein	0.75	3	0.00	0.75	0.75	B 66
		Genistein	2.70	3	0.00	2.70	2.70	B 66
		Glycetin	0.30	3	0.00	0.30	0.30	B 66
		Total isoflavones	3.75	3	0.00	3.75	3.75	B 66
16546	Sausage links, meatless, unprepared (MORNINGSTAR FARMS Veggie Sausage Links)	Daidzein	1.18	3	0.00	1.18	1.18	B 66
		Genistein	2.45	3	0.00	2.45	2.45	B 66
		Glycetin	0.30	3	0.00	0.30	0.30	B 66
		Total isoflavones	3.93	3	0.00	3.93	3.93	B 66
22122	Sausage patties, meatless (MORNINGSTAR FARMS Veggie Sausage Patties)	Daidzein	2.00	1				C 91
		Genistein	2.30	1				C 91
		Glycetin	0.30	1				C 91
		Total isoflavones	4.60	1				C 91
16107	Sausage, meatless	Daidzein	4.46	7	1.52	3.60	8.0	B 64,99
		Genistein	9.23	7	1.50	8.30	12.50	B 64,99
		Glycetin	2.30	2	0.74	1.80	2.80	C 99
		Total isoflavones	14.34	7	4.02	11.90	23.30	B 64,99
59472	Soy cheese, American	Daidzein	5.75	2		1.70	9.80	C 22
		Genistein	8.70	2		2.40	15.00	C 22
		Glycetin	3.50	2		1.70	5.30	C 22
		Total isoflavones	17.95	2		5.80	30.10	C 22
59041	Soy cheese, cheddar	Daidzein	1.83	7	0.93	0.20	3.40	B 22,95
		Genistein	2.11	7	1.07	0.50	4.00	B 22,95
		Glycetin	2.93	7	0.49	1.90	3.50	B 22,95
		Total isoflavones	6.87	7	2.28	3.40	10.90	B 22,95
59535	Soy cheese, Monterey Jack, fat-free	Daidzein	7.80	1				C 22
		Genistein	8.80	1				C 22
		Glycetin	2.10	1				C 22
		Total isoflavones	18.70	1				C 22

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NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
99054	Soy cheese, mozzarella	Daidzein	1.14	5	0.64	0.30	2.10	B	22,95
		Genistein	2.60	5	1.30	0.30	3.60	B	22,95
		Glycitein	2.28	5	1.08	0.30	3.00	B	22,95
		Total isoflavones	6.02	5	2.69	0.90	7.70	B	22,95
		Total isoflavones	1.50	3	0.00	1.50	1.50	C	95
99058	Soy cheese, parmesan	Daidzein	0.80	3	0.00	0.80	0.80	C	95
		Genistein	4.10	3	0.00	4.10	4.10	C	95
		Glycitein	6.40	3	0.00	6.40	6.40	C	95
		Total isoflavones	1.80	1				C	22
		Genistein	4.40	1				C	22
99471	Soy cheese, swiss	Daidzein	1.70	1				C	22
		Genistein	7.90	1				C	22
		Glycitein	5.79	8	6.41	0.00	21.10	B	13,23,34
		Total isoflavones	11.14	8	11.31	1.95	38.20	B	13,23,34
		Genistein	25.72	5	20.18	3.33	59.30	C	13,23
99043	Soy drink	Daidzein	2.75	5	1.23	0.70	4.12	C	16,75
		Genistein	5.10	5	1.80	2.10	7.10	C	16,75
		Glycitein	7.85	5	3.04	2.80	11.22	C	16,75
		Total isoflavones	18.80	6	1.41	16.58	21.03	B	13,67
		Genistein	21.68	6	2.89	17.11	26.26	B	13,67
99045	Soy fiber	Daidzein	7.90	3	0.00	7.90	7.90	B	67
		Genistein	44.43	6	3.98	38.13	50.73	B	13,67
		Glycitein	67.69	35	19.25	24.80	123.25	B	11,28,42,50,65,67,75,83,8
		Total isoflavones	89.42	35	26.96	33.50	150.00	B	11,28,42,50,65,67,75,83,8
		Genistein	20.02	27	6.77	3.90	30.30	B	11,28,42,50,65,67,75,83,8
99080	Soy flour (textured)	Daidzein	172.55	35	50.01	68.60	295.55	B	6,91,95
		Genistein	64.55	49	20.20	22.60	149.60	B	11,13,22,42,49,64,65,76,7
		Glycitein	87.31	79	21.80	40.98	174.90	B	7,81,83,93,94,95
		Total isoflavones	150.94	49	41.02	73.72	324.40	B	11,13,14,22,42,49,64,65,7
		Genistein	72.92	60	19.02	16.20	130.92	B	6,77,81,83,93,94,95
16117	Soy flour, defatted	Daidzein	15.08	27	11.75	2.70	59.30	B	11,22,42,65,81,83,93,94,9
		Genistein	150.94	49	41.02	73.72	324.40	B	5
		Glycitein	72.92	60	19.02	16.20	130.92	B	11,13,22,42,49,64,65,76,7
		Total isoflavones	98.77	60	20.21	36.80	145.23	B	7,81,83,93,94,95
		Genistein	18.12	25	4.33	4.80	24.83	B	1,94
16115	Soy flour, full-fat, raw	Daidzein	178.10	60	37.08	59.80	264.84	B	18,23,24,59,67,71,75,77,9
		Genistein	89.46	6	19.72	57.00	119.20	C	1,94
		Glycitein	85.12	6	21.36	70.74	126.90	C	11,13,22,42,49,64,65,76,7
		Total isoflavones	89.46	6	19.72	57.00	119.20	C	7,81,83,93,94,95
		Genistein	85.12	6	21.36	70.74	126.90	C	1,94
16116	Soy flour, full-fat, roasted	Daidzein	89.46	6	19.72	57.00	119.20	C	11,13,22,42,49,64,65,76,7
		Genistein	85.12	6	21.36	70.74	126.90	C	7,81,83,93,94,95
		Glycitein	85.12	6	21.36	70.74	126.90	C	1,94
		Total isoflavones	178.10	60	37.08	59.80	264.84	B	18,23,24,59,67,71,75,77,9
		Genistein	89.46	6	19.72	57.00	119.20	C	1,94

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NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
99111	Soy hot dog, frozen, unprepared	Glycitein	16.40	2		14.40	18.40	C	3,66
		Total isoflavones	165.04	6	51.03	130.00	260.50	C	3,13,62,66
		Daidzein	0.40	1				C	91
		Genistein	0.80	1				C	91
		Glycitein	0.00	1				C	91
99511	Soy lecithin	Daidzein	1.00	1				C	91
		Genistein	5.40	5	0.00	5.40	5.40	C	84
		Glycitein	10.30	5	0.00	10.30	10.30	C	84
		Total isoflavones	15.70	5	0.00	15.70	15.70	C	84
		Daidzein	80.77	8	9.17	57.47	87.45	C	1,97
16119	Soy meal, defatted, raw	Genistein	114.71	8	18.42	68.35	127.33	C	1,97
		Glycitein	16.12	7	1.02	13.69	18.61	C	1
		Total isoflavones	208.58	8	32.71	125.82	225.15	C	1,97
		Daidzein	0.90	3	0.00	0.90	0.90	C	95
		Genistein	3.70	3	0.00	3.70	3.70	C	95
99049	Soy noodles, flat	Glycitein	3.90	3	0.00	3.90	3.90	C	95
		Total isoflavones	8.50	3	0.00	8.50	8.50	C	95
		Daidzein	19.71	33	5.32	3.00	27.60	B	13,34,91,95,97
		Genistein	17.79	33	5.75	0.31	28.99	B	13,34,91,95,97
		Glycitein	8.05	4	3.01	1.10	7.70	B	91,95
99038	Soy paste	Total isoflavones	38.24	33	11.25	3.31	58.40	B	13,34,91,95,97
		Daidzein	38.25	11	18.81	16.68	91.05	B	13,67
		Genistein	52.81	11	8.35	40.28	75.95	B	13,67
		Glycitein	4.94	8	0.48	4.27	6.05	B	67
		Total isoflavones	94.65	11	25.75	61.23	167.00	B	13,67
16121	Soy protein concentrate, produced by alcohol extraction	Daidzein	5.78	21	3.83	0.79	21.09	B	13,67,75
		Genistein	5.26	21	1.78	1.29	10.73	B	13,67,75
		Glycitein	1.57	6	0.00	1.57	1.57	B	67
		Total isoflavones	11.49	21	5.50	2.08	31.82	B	13,67,75
		Daidzein	27.98	8	18.19	8.70	64.10	B	22
99590	Soy Protein Drink	Genistein	42.91	8	25.44	14.20	84.50	B	22
		Glycitein	10.78	8	3.65	4.70	14.90	B	22
		Total isoflavones	81.65	8	46.04	27.60	163.50	B	22
		Daidzein	30.81	49	12.73	7.70	68.89	B	1,3,11,12,13,14,18,23,67,84,93,94,95
		Genistein	57.28	55	14.17	27.17	105.10	B	1,3,11,12,13,14,18,23,67,84,93,94,95
16122	Soy protein isolate	Glycitein	8.54	42	3.22	5.40	26.40	B	1,3,11,12,13,14,18,23,67,84,93,94,95
		Total isoflavones	91.05	49	26.00	48.50	199.25	B	1,3,11,12,13,14,18,23,67,84,93,94,95
		Daidzein	0.10	1				B	68
		Genistein	0.00	1				B	68
		Glycitein	0.00	1				B	66

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NDB No.	Food Description	Nutrient	Mean	SD	Min	Max	CC	Reference No.
16123	Soy sauce made from soy and wheat (shoyu)	Total isoflavones	0.10	1			B	66
		Daidzein	0.76	0.30	0.02	2.30	B	13,31,34,42,61,66,74,81,89,90,97
		Genistein	0.39	0.22	0.00	1.54	B	13,25,31,34,42,61,66,74,81,89,90,97
		Glycitein	0.14	0.07	0.00	0.45	B	42,66,74,81,89,90
		Total isoflavones	1.18	0.40	0.13	2.80	B	13,31,34,42,61,66,74,81,89,90,97
99510	Soy yogurt	Daidzein	13.77	12.39	3.36	30.90	B	22,89,99
		Genistein	16.59	9.83	6.57	29.80	B	22,89,99
		Glycitein	2.80	4.12	0.00	9.40	B	22,89,99
		Total isoflavones	33.17	26.16	10.23	70.10	B	22,89,99
		Daidzein	0.14	2	0.14	0.14	C	16
99063	Soy-based liquid formula for adults, ABBOTT NUTRITION, ENRICH	Genistein	0.40	2	0.40	0.40	C	16
		Total isoflavones	0.54	2	0.54	0.54	C	16
		Daidzein	0.21	4	0.21	0.02	C	16,91
		Genistein	0.33	4	0.32	0.80	C	16,91
		Glycitein	0.10	2	0.10	0.10	C	91
99064	Soy-based liquid formula for adults, ABBOTT NUTRITION, GLUCERNA	Total isoflavones	0.57	4	0.56	0.08	C	16,91
		Daidzein	0.03	2	0.03	0.03	C	16
		Genistein	0.31	2	0.31	0.31	C	16
		Total isoflavones	0.34	2	0.34	0.34	C	16
		Daidzein	0.22	1			B	68
99105	Soybean butter, full fat, Worthington Foods, Inc.	Genistein	0.30	1			B	68
		Glycitein	0.05	1			B	68
		Total isoflavones	0.57	1			B	68
		Daidzein	26.71	3	0.00	26.71	C	13
		Genistein	27.45	3	0.00	27.45	C	13
99072	Soybean chips	Total isoflavones	54.16	3	0.00	54.16	C	13
		Daidzein	12.18	5	1.91	9.00	C	23,95
		Genistein	21.12	5	1.15	19.20	C	23,95
		Glycitein	2.30	3	0.00	2.30	C	95
		Total isoflavones	34.68	5	3.89	26.20	C	23,95
99034	Soybean, curd, fermented	Daidzein	37.47	10	24.37	13.92	C	18,20,38,80,84
		Genistein	91.22	10	41.85	44.41	C	18,20,38,80,84
		Glycitein	14.23	2	1.71	26.76	C	18,80
		Total isoflavones	131.53	10	64.64	61.34	C	18,20,38,80,84
		Daidzein	21.75	9	23.03	7.01	B	18,42,81,86
99038	Soybeans, flakes, full-fat	Genistein	39.57	9	43.82	13.19	B	18,42,81,86
		Glycitein	1.12	8	0.35	0.92	B	18,42,81
		Total isoflavones	62.31	9	67.07	21.12	B	18,42,81,86
		Daidzein	61.70	15	5.84	53.69	B	68,73,74,95
		Daidzein						

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NDB No.	Food Description	Nutrient	Mean	SD	Min	Max	CC	Reference No.
99520	Soybeans, mature seeds, canned	Genistein	60.07	12.13	33.50	91.72	B	68,73,74,95
		Glycitein	7.07	3.60	3.67	19.69	B	68,73,74,95
		Total isoflavones	128.83	15	100.93	186.76	B	68,73,74,95
		Daidzein	26.15	4	0.64	27.20	B	34,42
		Genistein	25.15	4	12.87	46.30	B	34,42
16109	Soybeans, mature seeds, cooked, boiled, without salt	Glycitein	6.1	1			B	34,42
		Total isoflavones	52.82	4	16.29	43.90	B	34,42
		Daidzein	30.76	28	10.64	64.90	B	8,22,24,50,74,89,90
		Genistein	31.26	28	8.83	54.10	B	8,22,24,50,74,89,90
		Glycitein	3.75	23	1.53	9.20	B	22,74,89,90
16111	Soybeans, mature seeds, dry roasted (includes soy nuts)	Total isoflavones	65.11	28	19.57	128.20	B	8,22,24,50,74,89,90
		Daidzein	62.14	16	28.04	97.00	B	13,22,23,24,68,74,89,95
		Genistein	75.78	25	25.18	110.65	B	13,14,22,23,24,25,68,74,89,95
		Glycitein	13.33	12	8.69	30.70	B	22,23,68,74,89,95
		Total isoflavones	148.50	16	63.12	201.90	B	13,22,23,24,68,74,89,95
16108	Soybeans, mature seeds, raw (all sources)	Daidzein	62.07	1000	2.64	191.43	B	2,4,5,6,8,9,10,11,15,18,21,22,23,24,26,27,31,32,33,34,36,39,40,41,42,44,45,47,48,50,52,53,57,60,61,62,64,73,74,78,88,90,94,95,96,97,98,99,100,102,103,104
		Genistein	80.99	1003	5.59	278.21	B	2,4,5,6,8,9,10,11,15,18,21,22,23,24,25,26,27,31,32,33,34,36,39,40,41,42,44,45,47,48,50,52,53,57,60,61,62,64,73,74,78,88,90,94,95,96,97,98,99,100,102,103,104
		Glycitein	14.99	753	7.45	0.00	B	2,4,6,11,15,18,22,23,26,27,32,33,34,36,39,40,41,42,44,47,48,52,53,60,73,74,90,94,95,99,99,100,103,104
		Total isoflavones	154.53	989	10.04	440.72	B	2,4,5,6,8,9,10,11,15,18,21,22,23,24,26,27,31,32,33,34,36,39,40,41,42,44,45,47,48,50,52,53,57,60,61,62,64,73,74,78,88,90,94,95,96,97,98,99,100,102,103,104
		Daidzein	39.88	57	16.98	7.30	B	34,42,73
99574	Soybeans, mature seeds, raw (Australia)	Genistein	65.64	57	18.35	28.40	B	34,42,73
		Glycitein	17.12	51	4.10	7.29	B	34,42,73
		Total isoflavones	120.64	57	34.12	50.80	B	34,42,73
		Daidzein	29.09	58	12.70	9.68	B	5,27
		Genistein	67.57	58	13.69	25.88	B	5,27
99030	Soybeans, mature seeds, raw (Brazil)	Glycitein	13.10	14	3.58	4.59	B	27
		Total isoflavones	99.82	58	21.22	42.54	B	5,27
		Daidzein	53.38	22	13.89	24.40	B	9,73,74,104
		Genistein	57.98	22	5.60	43.35	B	9,73,74,104
		Glycitein	11.71	13	2.35	5.56	B	15,08
99488	Soybeans, mature seeds, raw (China)	Total isoflavones	118.28	22	21.20	77.87	B	9,73,74,104
		Daidzein						
		Genistein						
		Glycitein						
		Total isoflavones						

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98575	Soybeans, mature seeds, raw (Europe)	Daidzein	45.44	44	10.54	2.64	89.69	B	2,44,45,50,64,78,99
		Genistein	38.78	44	14.48	9.70	109.25	B	2,44,45,50,64,78,99
		Glycitein	22.37	32	8.19	0.00	50.58	A	2,44,99
		Total isoflavones	103.56	43	18.71	45.38	161.22	A	2,44,45,50,64,99
99092	Soybeans, mature seeds, raw (Japan)	Daidzein	45.95	49	22.47	7.45	113.90	B	24,61,62,73,74,96,102
		Genistein	74.33	52	23.58	13.00	156.70	B	24,25,61,62,73,74,96,102
		Glycitein	9.01	36	3.21	2.70	20.40	B	73,74,96
		Total isoflavones	130.85	49	41.17	34.22	253.09	B	24,61,62,73,74,96,102
99093	Soybeans, mature seeds, raw (Korea)	Daidzein	78.86	314	19.72	7.51	144.92	C	9,10,40,41,48,73,74,103
		Genistein	89.32	314	24.68	10.13	221.85	C	9,10,40,41,48,73,74,103
		Glycitein	18.76	178	7.13	1.25	47.82	C	40,41,48,73,74,103
		Total isoflavones	178.81	314	47.16	20.02	380.50	C	9,10,40,41,48,73,74,103
99040	Soybeans, mature seeds, raw (Taiwan)	Daidzein	27.77	22	18.10	3.31	94.75	B	24,33,39,52,98
		Genistein	45.88	22	16.78	5.58	83.55	B	24,33,39,52,98
		Glycitein	13.24	20	5.17	1.17	24.75	B	33,52,98
		Total isoflavones	85.68	22	33.42	10.04	186.60	B	24,33,39,52,98
99576	Soybeans, mature seeds, raw (United States)	Daidzein	61.33	369	21.48	9.88	191.43	B	4,6,8,11,15,18,21,22,24,2,6,31,32,47,53,57,60,73,74,88,94,95,96,97,98,100
		Genistein	86.33	369	20.30	19.79	180.19	B	4,6,8,11,15,18,21,22,24,2,6,31,32,47,53,57,60,73,74,88,94,95,96,97,98,100
		Glycitein	13.33	361	8.89	1.16	121.60	B	4,6,11,15,18,22,26,32,47,53,60,73,74,84,94,95,96,98,100
		Total isoflavones	159.98	369	43.58	18.08	368.08	B	4,6,8,11,15,18,21,22,24,2,6,31,32,47,53,57,60,73,74,88,94,95,96,97,98,100
16228	Soymilk (All flavors), lowfat, with added calcium, vitamins A and D	Daidzein	1.01	1				C	11
		Genistein	1.51	1				C	11
		Glycitein	0.04	1				C	11
		Total isoflavones	2.56	1				C	11
16230	Soymilk (all flavors), nonfat, with added calcium, vitamins A and D	Daidzein	0.30	1				C	11
		Genistein	0.41	1				C	11
		Glycitein	0.00	1				C	11
		Total isoflavones	0.70	1				C	11
98588	Soymilk curd, dried	Daidzein	40.85	6	1.42	38.60	43.10	B	34
		Genistein	42.45	6	0.54	41.60	43.30	B	34
		Total isoflavones	83.30	6	0.89	81.90	84.70	B	34
		Daidzein	17.81	11	2.98	10.10	23.20	B	22,23
		Genistein	25.15	11	5.31	10.50	32.50	B	22,23
99096	Soymilk skin or film (Foolok or yuba), cooked	Glycitein	2.69	7	0.55	1.60	3.50	B	22
		Total isoflavones	44.67	11	8.12	22.20	55.50	B	22,23
		Daidzein	80.03	19	21.28	18.10	116.00	B	22,23,74,90,97
		Genistein	101.40	19	21.98	23.60	131.70	B	22,23,74,90,97
		Glycitein	15.43	18	2.99	4.09	18.40	B	22,23,74,90
99053	Soymilk skin or film (Foolok or yuba), raw	Total isoflavones	196.05	18	46.55	43.78	268.10	B	22,23,74,90,97
		Daidzein							
		Genistein							
		Glycitein							

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NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
16168	Soymilk, fluid, chocolate, with added calcium, vitamins A and D	Daidzein	3.40	2		2.40	4.40	C	22,98
		Genistein	4.15	2		3.10	5.20	C	22,98
		Glycitein	0.25	2		0.00	0.50	C	22,98
		Total isoflavones	7.80	2		6.00	9.80	C	22,98
99014	Soymilk, lead	Daidzein	1.90	6	0.88	0.34	3.45	C	13
		Genistein	2.81	6	0.68	1.78	3.95	C	13
		Total isoflavones	4.71	6	1.64	2.12	7.31	C	13
		Daidzein	2.80	3	0.00	2.80	2.80	B	34
		Genistein	3.10	3	0.00	3.10	3.10	B	34
99559	Soymilk, made from soy isolate (purchased in Australia)	Total isoflavones	5.90	3	0.00	5.90	5.90	B	34
		Daidzein	4.84	158	1.71	0.50	12.80	B	3,9,11,13,17,22,23,31,34,38,42,46,54,55,61,63,66,74,79,81,89,90,94,97,99
		Genistein	6.07	182	0.47	0.40	16.80	B	3,7,9,11,13,17,22,23,25,31,34,38,42,46,54,55,61,63,66,74,79,81,89,90,94,97,99
		Glycitein	0.83	73	0.00	3.57	3.57	B	3,7,11,22,42,66,74,79,81,89,90,94,99
		Total isoflavones	10.73	156	3.99	1.10	31.03	B	3,7,9,11,13,17,22,23,31,34,38,42,46,54,55,61,63,66,74,79,81,89,90,94,97,99
99487	Sufu	Daidzein	7.50	12	2.77	3.45	11.50	C	92,104
		Genistein	5.48	12	2.32	1.69	9.81	C	92,104
		Glycitein	0.78	12	0.46	0.23	1.96	C	92,104
		Total isoflavones	13.76	12	4.88	6.34	22.32	C	92,104
16114	Tempeh	Daidzein	22.66	28	8.90	4.67	59.69	B	13,34,35,65,66,72,75,94,95
		Genistein	38.15	28	17.64	1.11	112.21	B	13,34,35,65,66,72,75,94,95
		Glycitein	3.62	13	1.45	0.90	7.30	B	65,66,72,94,95
		Total isoflavones	60.81	28	27.44	6.88	179.20	B	13,34,35,65,66,72,75,94,95
99081	Tempeh burger	Daidzein	8.40	3	0.00	6.40	6.40	C	95
		Genistein	19.60	3	0.00	19.60	19.60	C	95
		Glycitein	3.00	3	0.00	3.00	3.00	C	95
		Total isoflavones	29.00	3	0.00	29.00	29.00	C	95
16174	Tempeh, cooked	Daidzein	13.12	2		6.98	19.25	C	66,89
		Genistein	21.14	2		10.73	31.55	C	66,89
		Glycitein	1.39	2		0.57	2.20	C	66,89
		Total isoflavones	35.64	2		18.28	53.00	C	66,89
98500	Tempeh, fried	Daidzein	32.90	3	0.00	32.90	32.90	B	34
		Genistein	39.90	3	0.00	39.90	39.90	B	34
		Total isoflavones	72.80	3	0.00	72.80	72.80	B	34
		Daidzein	5.70	3	0.00	5.70	5.70	C	95
		Genistein	9.40	3	0.00	9.40	9.40	C	95
42478	Tofu yogurt	Total isoflavones							
		Daidzein							
		Genistein							
		Glycitein							

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NDB No.	Food Description	Nutrient	Mean	SD	Min	Max	CC	Reference No.	
99084	Tofu, AZUMAYA, extra firm, cooked (steamed)	Glycetin	1.20	3	0.00	1.20	C 95		
		Total Isoflavones	16.30	3	0.00	16.30	C 95		
		Daidzein	8.00	1			B 66		
		Genistein	12.75	1			B 66		
		Glycetin	1.95	1			B 66		
99085	Tofu, AZUMAYA, firm, cooked	Total Isoflavones	22.70	1			B 66		
		Daidzein	12.80	2	12.80	12.80	B 66		
		Genistein	16.15	2	16.15	16.15	B 66		
		Glycetin	2.40	2	2.40	2.40	B 66		
		Total Isoflavones	31.35	2	31.35	31.35	B 66		
16128	Tofu, dried-frozen (koyadofu)	Daidzein	29.59	4	2.58	25.34	C 74,97		
		Genistein	51.04	4	5.41	42.15	C 74,97		
		Glycetin	3.44	3	0.00	3.44	C 74		
		Total Isoflavones	83.20	4	9.58	67.49	C 74,97		
		Daidzein	8.23	2	7.35	9.10	B 66		
16159	Tofu, extra firm, prepared with nigan	Genistein	12.45	2	11.10	13.80	B 66		
		Glycetin	1.95	2	1.70	2.20	B 66		
		Total Isoflavones	22.63	2	20.15	25.10	B 66		
		Daidzein	7.28	4	0.00	7.28	C 79		
		Genistein	8.22	4	0.00	8.22	C 79		
99540	Tofu, firm, braised	Glycetin	1.28	4	0.00	1.28	C 79		
		Total Isoflavones	16.79	4	0.00	16.79	C 79		
		Daidzein	10.26	7	2.48	5.36	12.40	B 22,30,89	
		Genistein	10.83	7	3.88	5.36	17.05	B 22,30,89	
		Glycetin	1.35	5	0.32	0.73	1.50	C 22,69	
99529	Tofu, firm, cooked	Total Isoflavones	22.05	7	6.36	11.15	27.12	B 22,30,89	
		Daidzein	12.31	105	4.72	0.90	48.59	B 11,16,22,23,31,33,34,39,42,61,64,65,66,74,79,81,90,97,104	
		Genistein	18.10	108	7.70	2.22	81.51	B 11,16,22,23,25,31,33,34,39,42,61,64,65,66,74,79,81,90,97,104	
		Glycetin	2.75	70	1.28	0.57	12.20	B 11,22,23,33,42,65,66,74,79,81,90,97,104	
		Total Isoflavones	30.41	105	13.30	3.12	142.30	B 11,16,22,23,31,33,34,39,42,61,64,65,66,74,79,81,90,97,104	
16126	Tofu, firm, prepared with calcium sulfate and magnesium chloride (nigan)	Daidzein	13.80	39	2.70	7.20	24.70	B 22,23,34,66,74,79,90	
		Genistein	18.43	39	4.67	8.30	35.10	B 22,23,34,66,74,79,90	
		Glycetin	2.93	34	1.13	0.70	7.57	B 22,23,66,74,79,90	
		Total Isoflavones	34.78	39	7.32	16.20	65.10	B 22,23,34,66,74,79,90	
		Daidzein	12.42	4	2.36	8.55	13.71	B 13,66	
16162	Tofu, MORI-NU, silken, firm	Genistein	16.95	4	2.49	12.85	18.31	B 13,66	

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US - Collumance Cooker									
NDB No.	Food Description	Nutrient	Mean	SD	Min	Max	CC	Reference No.	
		Glycine	2.40	1				B 66	
		Total Isoflavones	29.97	4	3.75	23.80	32.02	B 13,66	
16130	Tofu, okara	Daidzein	3.62	7	2.98	0.57	10.20	B 66,74,94	
		Genistein	4.47	7	2.86	1.95	11.00	B 66,74,94	
		Glycine	1.30	7	0.38	1.09	2.20	B 66,74,94	
		Total Isoflavones	9.39	7	6.20	3.81	23.40	B 66,74,94	
99097	Tofu, pressed (Tofu kwei), raw	Daidzein	15.59	18	2.16	13.60	23.80	B 22,23,34	
		Genistein	16.01	18	2.35	13.90	25.00	B 22,23,34	
		Glycine	2.77	15	0.85	2.00	5.70	B 22,23	
		Total Isoflavones	33.91	18	5.38	29.50	54.50	B 22,23,34	
16427	Tofu, raw, regular, prepared with calcium sulfate	Daidzein	8.56	10	3.32	1.15	14.60	B 13,24,94,95	
		Genistein	12.99	10	4.19	2.89	18.66	B 13,24,94,95	
		Glycine	1.98	6	0.59	1.05	2.90	C 94,95	
		Total Isoflavones	22.73	10	7.33	5.09	33.70	B 13,24,94,95	
16132	Tofu, salted and fermented (fuyu)	Daidzein	20.72	5	9.09	3.58	25.00	C 22,23,97	
		Genistein	23.83	5	10.54	3.96	28.80	C 22,23,97	
		Glycine	4.95	4	0.04	4.90	5.00	C 22,23	
		Total Isoflavones	48.51	5	21.73	7.54	98.80	C 22,23,97	
99495	Tofu, silken	Daidzein	9.15	25	2.32	2.94	18.60	B 34,36,79	
		Genistein	8.42	25	1.50	4.95	13.60	B 34,36,79	
		Glycine	0.92	13	0.22	0.21	1.23	B 36,79	
		Total Isoflavones	18.04	25	3.47	8.10	28.90	B 34,36,79	
99541	Tofu, smoked	Daidzein	7.50	3	0.00	7.50	7.50	B 34	
		Genistein	5.60	3	0.00	5.60	5.60	B 34	
		Total Isoflavones	13.10	3	0.00	13.10	13.10	B 34	
16127	Tofu, soft, prepared with calcium sulfate and magnesium chloride (nigari)	Daidzein	9.49	18	2.19	3.44	14.00	B 16,22,66,79,97	
		Genistein	11.91	18	3.82	5.26	21.59	B 16,22,66,79,97	
		Glycine	1.68	13	0.53	1.03	3.00	B 22,66,79	
		Total Isoflavones	22.61	18	5.43	8.70	32.40	B 16,22,66,79,97	
99086	Tofu, soft, VITASOY-silken	Daidzein	8.59	2	8.59	8.59	C 16		
		Genistein	20.65	2	20.65	20.65	C 16		
		Total Isoflavones	29.24	2	29.24	29.24	C 16		
16147	Veggie burgers or soyburgers, unprepared	Daidzein	2.36	31	1.04	0.2	4.55	B 14,22,32,46,67,81,89,91,99	
		Genistein	5.01	37	2.91	0	13.2	B 14,22,32,46,67,81,89,91,99	
		Glycine	0.55	25	0.45	0.00	1.70	B 22,66,81,89,91,99	
		Total Isoflavones	6.39	31	2.68	0.3	12.4	B 22,32,46,67,81,89,91,99	
18 - Baked Products									
99001	9-grain bread	Daidzein	0.01	3	0.00	0.01	0.01	C 59	
		Genistein	0.01	3	0.00	0.01	0.01	C 59	
		Total Isoflavones	0.02	3	0.00	0.02	0.02	C 59	
18079	Bread crumbs, dry, graded	Daidzein	0.40	1				C 91	

18 - Baked Products

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NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
	pan	Genistein	0.30	1				C	91
		Glycitein	0.00	1				C	91
		Total isoflavones	0.70	1				C	91
18081	Bread stuffing, bread, dry mix	Daidzein	0.20	2	0.10	0.10	0.30	C	91
		Genistein	0.20	2	0.20	0.20	0.20	C	91
		Glycitein	0.00	2	0.00	0.00	0.00	C	91
		Total isoflavones	0.40	2	0.30	0.30	0.50	C	91
99523	Bread, brown (Purchased in the United Kingdom)	Daidzein	0.30	1				B	49
		Genistein	0.23	1				B	49
		Total isoflavones	0.52	1				B	49
99518	Bread, flax, commercially prepared	Daidzein	0.09	1				D	89
		Genistein	0.21	1				D	89
		Glycitein	0.00	1				D	89
		Total isoflavones	0.30	1				D	89
99524	Bread, granary (Purchased in the United Kingdom)	Daidzein	0.11	1				B	49
		Genistein	0.22	1				B	49
		Total isoflavones	0.34	1				B	49
18035	Bread, Multi-Grain (includes whole-grain)	Daidzein	0.20	4	0.23	0.00	0.40	C	89,91
		Genistein	0.15	4	0.17	0.00	0.30	C	89,91
		Glycitein	0.00	4	0.00	0.00	0.00	C	89,91
		Total isoflavones	0.38	4	0.43	0.00	0.80	C	89,91
99534	Bread, soy and linseed (purchased in Australia)	Daidzein	4.87	3	2.51	2.10	7.00	B	42
		Genistein	9.13	3	3.09	5.80	11.90	B	42
		Glycitein	0.67	3	0.70	0.00	1.40	B	42
		Total isoflavones	14.67	3	5.46	8.50	18.90	B	42
99488	Bread, sweet (King's Hawaiian)	Daidzein	0.50	2	0.50	0.50	0.50	C	91
		Genistein	0.50	2	0.50	0.50	0.50	C	91
		Glycitein	0.05	2	0.00	0.00	0.10	C	91
		Total isoflavones	1.05	2	1.00	1.00	1.10	C	91
99476	Bread, taro rolls	Daidzein	0.45	2	0.40	0.40	0.50	C	91
		Genistein	0.35	2	0.30	0.30	0.40	C	91
		Glycitein	0.05	2	0.00	0.00	0.10	C	91
		Total isoflavones	0.90	2	0.80	0.80	1.00	C	91
18068	Bread, wheat germ	Daidzein	0.25	1				B	49
		Genistein	0.23	1				B	49
		Total isoflavones	0.49	1				B	49
18069	Bread, white, commercially	Daidzein	0.06	10	0.09	0.00	0.20	B	42,49,89,91,99

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NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
	prepared (includes soft bread crumbs)	Genistein	0.13	10	0.17	0.00	0.50	B	42,49,89,91,99
		Glycitein	0.00	9	0.00	0.00	0.00	B	42,89,91,99
		Total isoflavones	0.19	10	0.25	0.00	0.70	B	42,49,89,91,99
99515	Bread, white, commercially prepared, with added soy flour or soy protein	Daidzein	0.74	3	0.23	0.80	1.00	C	31,91
		Genistein	0.89	3	0.24	0.40	0.83	C	31,91
		Glycitein	0.10	2	0.10	0.10	0.10	C	91
		Total isoflavones	1.48	3	0.40	1.10	1.90	C	31,91
99516	Bread, whole grain, commercially prepared, with added soy flour or soy protein	Daidzein	0.16	1				D	31
		Genistein	0.14	1				D	31
		Total isoflavones	0.30	1				D	31
99517	Bread, whole meal, commercially prepared, with added soy flour or soy protein	Daidzein	0.29	2	0.20	0.20	0.37	C	49,99
		Genistein	0.28	2	0.10	0.10	0.46	C	49,99
		Glycitein	0.00	1	0.00	0.00	0.00	C	99
		Total isoflavones	0.57	2	0.30	0.30	0.83	C	49,99
18127	Cake, snack cakes, cream-filled, chocolate with frosting	Daidzein	0.13	4	0.25	0.00	0.50	C	91
		Genistein	0.15	4	0.24	0.00	0.50	C	91
		Glycitein	0.00	4	0.00	0.00	0.00	C	91
		Total isoflavones	0.28	4	0.49	0.00	1.00	C	91
18133	Cake, sponge, commercially prepared	Daidzein	0.10	1				C	99
		Genistein	0.10	1				C	99
		Glycitein	0.00	1				C	99
		Total isoflavones	0.20	1				C	99
18150	Cookies, animal crackers (includes arrowroot, tea biscuits)	Daidzein	0.01	1				B	49
		Genistein	0.01	1				B	49
		Total isoflavones	0.03	1				B	49
18216	Crackers, crispbread, rye	Daidzein	0.01	10	0.00	0.00	0.01	B	49,59
		Genistein	0.01	10	0.00	0.00	0.01	B	49,59
		Total isoflavones	0.01	10	0.01	0.00	0.02	B	49,59
18217	Crackers, matzo, plain	Daidzein	0.00	1				B	49
		Genistein	0.01	1				B	49
		Total isoflavones	0.01	1				B	49
99550	Crispbread, multigrain (purchased in the United Kingdom)	Daidzein	0.61	1				B	49
		Genistein	0.59	1				B	49
		Total isoflavones	1.19	1				B	49
99551	Crispbread, wheat (purchased in the United Kingdom)	Daidzein	0.01	2	0.01	0.01	0.01	B	49
		Genistein	0.02	2	0.01	0.01	0.02	B	49
		Total isoflavones	0.02	2	0.02	0.02	0.02	B	49
18248	Doughnuts, cake-type, plain	Daidzein	2.58	7	1.33	1.06	4.70	B	89,91

USDA Database on the Isoflavone Content of Selected Foods, Release 2.0

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NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
	(includes unsugared, ad-fashioned)	Genistein	2.44	7	1.11	1.60	4.40	B	89,91
		Glycitein	0.29	7	0.17	0.04	0.50	B	89,91
		Total isoflavones	5.31	7	2.57	2.87	9.80	B	89,91
18249	Doughnuts, cake-type, plain, chocolate-coated or frosted	Daidzein	1.90	2	1.70	2.10	2.10	C	91
		Genistein	1.65	2	1.50	1.80	1.80	C	91
		Glycitein	0.20	2	0.20	0.20	0.20	C	91
		Total isoflavones	3.70	2	3.30	4.10	4.10	C	91
18250	Doughnuts, cake-type, plain, sugared or glazed	Daidzein	0.50	1				C	91
		Genistein	0.50	1				C	91
		Glycitein	0.10	1				C	91
		Total isoflavones	1.10	1				C	91
99509	Doughnuts, with added soy flour or soy protein	Daidzein	1.30	1				D	31
		Genistein	3.22	1				D	31
		Total isoflavones	4.52	1				D	31
18255	Doughnuts, yeast-leavened, glazed, enriched (includes honey buns)	Daidzein	0.30	1				C	91
		Genistein	0.20	1				C	91
		Glycitein	0.00	1				C	91
		Total isoflavones	0.60	1				C	91
99508	English muffins, with added soy flour or soy protein	Daidzein	0.23	3	0.25	0.00	0.50	C	31,91
		Genistein	0.21	3	0.20	0.00	0.40	C	31,91
		Glycitein	0.00	2		0.00	0.00	C	91
		Total isoflavones	0.47	3	0.40	0.10	0.80	C	31,91
18366	Sweet rolls, cinnamon, commercially prepared with raisins	Daidzein	0.70	2	0.60	0.80	0.80	C	91
		Genistein	0.65	2	0.60	0.70	0.70	C	91
		Glycitein	0.10	2	0.10	0.10	0.10	C	91
		Total isoflavones	1.50	2	1.40	1.60	1.60	C	91
19 - Sweets									
99564	Desserts, frozen, Glace Soy milk	Daidzein	7.00	1				C	91
		Genistein	6.20	1				C	91
		Glycitein	0.90	1				C	91
		Total isoflavones	14.00	1				C	91
99563	Desserts, frozen, Totuti Nondairy Original Premium	Daidzein	1.10	1				C	91
		Genistein	1.70	1				C	91
		Glycitein	0.10	1				C	91
		Total isoflavones	2.90	1				C	91
99474	Licorice, black, soft candy	Daidzein	0.16	2	0.02	0.02	0.29	C	31,89
		Genistein	0.31	2	0.02	0.02	0.60	C	31,89

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NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
		Glycitein	0.00	1				C	89
		Total isoflavones	0.47	2	0.05	0.05	0.89	C	31,89
99504	Pudding, made with soy milk	Daidzein	3.50	3	0.98	2.70	4.60	C	99
		Genistein	5.63	3	1.45	4.20	7.10	C	99
		Glycitein	0.00	3	0.00	0.00	0.00	C	99
		Total isoflavones	9.13	3	2.42	8.90	11.70	C	99
20 - Cereal Grains and Pasta									
20005	Barley, pearled, raw	Daidzein	0.00	1				B	49
		Genistein	0.01	1				B	49
		Total isoflavones	0.01	1				B	49
20016	Corn flour, whole-grain, yellow	Daidzein	0.01	1				B	49
		Genistein	0.01	1				B	49
		Total isoflavones	0.01	1				B	49
20020	Commeal, whole-grain, yellow	Daidzein	0.01	1				B	49
		Genistein	0.01	1				B	49
		Total isoflavones	0.02	1				B	49
20029	Couscous, cooked	Daidzein	0.01	1				D	89
		Genistein	0.00	1				D	89
		Glycitein	0.00	1				D	89
		Total isoflavones	0.01	1				D	89
99553	Flour, wheat, various types (Purchased in the United Kingdom)	Daidzein	0.02	3	0.01	0.01	0.03	B	49
		Genistein	0.01	3	0.01	0.00	0.02	B	49
		Total isoflavones	0.03	3	0.02	0.01	0.04	B	49
20109	Noodles, egg, dry, enriched	Daidzein	0.01	1				B	49
		Genistein	0.01	1				B	49
		Total isoflavones	0.02	1				B	49
20065	Pasta, fresh-refrigerated, spinach, as purchased	Daidzein	0.00	1				B	49
		Genistein	0.01	1				B	49
		Total isoflavones	0.01	1				B	49
20038	Rice, brown, long-grain, raw	Daidzein	0.03	2	0.00	0.00	0.06	C	31,49
		Genistein	0.04	2	0.00	0.00	0.07	C	31,49
		Total isoflavones	0.07	2	0.00	0.00	0.13	C	31,49
20068	Semolina, enriched	Daidzein	0.01	1				B	49
		Genistein	0.02	1				B	49
		Total isoflavones	0.02	1				B	49
20121	Spaghetti, cooked, enriched, without added salt	Daidzein	0.00	1				B	49
		Genistein	0.01	1				B	49

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USDA Compliance (only)									
NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
20120	Spaghetti, dry, enriched	Total isoflavones	0.01	1				B	49
		Daidzein	0.01	1				B	49
		Genistein	0.01	1				B	49
		Total isoflavones	0.01	1				B	49
20124	Spaghetti, whole-wheat, dry	Daidzein	0.01	2		0.00	0.01	B	49
		Genistein	0.01	2		0.01	0.01	B	49
		Total isoflavones	0.02	2		0.01	0.02	B	49
		Daidzein	0.00	1				B	49
20080	Wheat flour, whole-grain	Genistein	0.01	1				B	49
		Total isoflavones	0.02	1				B	49
21 - Fast Foods									
99554	Fast Food, Pizza chain, meat topping	Daidzein	0.15	2		0.10	0.20	C	91
		Genistein	0.20	2		0.10	0.30	C	91
		Glycitein	0.00	2		0.00	0.00	C	91
		Total isoflavones	0.35	2		0.20	0.50	C	91
99555	JACK IN THE BOX, Beef Monster Taco	Daidzein	2.60	1				C	91
		Genistein	13.10	1				C	91
		Glycitein	0.20	1				C	91
		Total isoflavones	15.90	1				C	91
21322	McDONALD'S, Warm Cinnamon Roll	Daidzein	4.40	1				C	91
		Genistein	0.50	1				C	91
		Glycitein	0.70	1				C	91
		Total isoflavones	6.00	1				C	91
22003	Pizza, pepperoni topping, regular crust, frozen, cooked	Daidzein	0.01	1				D	89
		Genistein	0.01	1				D	89
		Glycitein	0.00	1				D	89
		Total isoflavones	0.01	1				D	89
99568	Pizza, with added soy flour or soy protein	Daidzein	0.23	1				D	31
		Genistein	0.24	1				D	31
		Total isoflavones	0.47	1				D	31
99557	Subway, meatball sandwich	Daidzein	3.00	1				C	91
		Genistein	2.70	1				C	91
		Glycitein	0.30	1				C	91
		Total isoflavones	6.00	1				C	91
22 - Meals, Entrees, and Sidedishes									

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CC - Compliance Code)

NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
22932	CAMPBELL Soup Company, SPAGHETTIOS, Spaghettios A to Z's	Daidzein	0.20	1				C	91
		Genistein	0.30	1				C	91
		Glycitein	0.00	1				C	91
		Total isoflavones	0.60	1				C	91
22904	Chili con carne with beans, canned entree	Daidzein	1.25	4	1.46	0.00	3.40	C	91
		Genistein	1.03	4	0.88	0.10	2.40	C	91
		Glycitein	0.15	4	0.17	0.00	0.40	C	91
		Total isoflavones	2.43	4	2.57	0.10	6.10	C	91
22911	Chili, no beans, canned entree	Daidzein	1.00	3	0.82	0.10	1.70	C	91
		Genistein	1.10	3	0.66	0.40	1.70	C	91
		Glycitein	0.17	3	0.15	0.00	0.30	C	91
		Total isoflavones	2.20	3	1.57	0.50	3.60	C	91
22720	HORMEL Vegetarian Chili with Beans, canned entree	Daidzein	1.90	1				C	91
		Genistein	1.20	1				C	91
		Glycitein	0.20	1				C	91
		Total isoflavones	3.30	1				C	91
99491	Ravioli, canned with beef in tomato sauce	Daidzein	0.43	4	0.29	0.00	0.80	C	91
		Genistein	0.38	4	0.26	0.00	0.80	C	91
		Glycitein	0.08	4	0.05	0.00	0.10	C	91
		Total isoflavones	0.83	4	0.56	0.00	1.20	C	91
25 Snacks									
99528	Bar, TIGER'S MILK PROTEIN RICH	Daidzein	4.90	1				C	91
		Genistein	5.90	1				C	91
		Glycitein	0.70	1				C	91
		Total isoflavones	11.50	1				C	91
99565	Formulated bar, Balance Yogurt Honey Peanut Flavor	Daidzein	11.80	1				C	91
		Genistein	13.60	1				C	91
		Glycitein	1.20	1				C	91
		Total isoflavones	26.60	1				C	91
99538	Formulated bar, Cliff Bar Crunchy Peanut Butter Flavor	Daidzein	13.30	1				C	91
		Genistein	13.00	1				C	91
		Glycitein	0.60	1				C	91
		Total isoflavones	26.90	1				C	91
99539	Formulated bar, Cliff Luna Nuts Over Chocolate Flavor	Daidzein	8.10	1				C	91
		Genistein	8.40	1				C	91
		Glycitein	1.20	1				C	91
		Total isoflavones	17.70	1				C	91
25017	Formulated bar, POWER	Daidzein	1.80	1				D	31

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NDB No.	Food Description	Nutrient	Mean	n	SD	Min	Max	CC	Reference No.
25013	BAIT, chocolate	Genistein	3.27	1				D	31
		Total isoflavones	5.07	1				D	31
		Daidzein	0.10	1				C	91
		Genistein	0.00	1				C	91
19015	Snacks, FRITOLAY, SUNCHIPS, Multigrain Snack, original flavor	Glycitein	0.00	1				C	91
		Total isoflavones	0.10	1				C	91
		Daidzein	0.05	3	0.00	0.05	0.05	C	59
		Genistein	0.08	3	0.00	0.08	0.08	C	59
19015	Snacks, granola bars, hard, plain	Total isoflavones	0.13	3	0.00	0.13	0.13	C	59
		Daidzein							
		Genistein							

List of Foods Containing Zero Values for Isoflavones

NDB No.	Ref. No.	Description
01 - Dairy and Eggs		
01056	31	Cream, sour, cultured
01079	89	Milk, reduced fat, fluid, 2% milkfat, with added vitamin A
01077	31,43	Milk, whole, 3.25% milkfat
01116	31	Yogurt, plain, whole milk, 8 grams protein per 8 ounces
02 - Spices and Herbs		
02046	31	Mustard, prepared, yellow
04 - Fats and Oils		
04299	86	Oil, canola and soybean
04044	86	Oil, soybean, salad or cooking
05 - Soups, Sauces and Gravies		
06118	91	Gravy, brown, dry
06119	91	Gravy, chicken, canned, ready-to-serve
06121	91	Gravy, mushroom, canned
06122	91	Gravy, mushroom, dry, powder
99546	91	Sauce mix, Betty Crocker, Tuna Helper
99548	91	Sauce mix, Rice-A-Roni, beef flavor
06075	91	Soup, beef broth or bouillon, powder, dry
06183	91	Soup, chicken broth, canned, less/reduced sodium
06194	91	Soup, chicken broth, canned, ready-to-serve
06419	89	Soup, chicken noodle, canned, condensed
06043	91	Soup, chicken noodle, canned, prepared with equal volume water
99501	91	Soup, cream of mushroom, canned, condensed
99502	89	Soup, New England clam chowder
99502	89	Soup, pea, reheated
06085	91	Soup, turkey noodle, canned, condensed
06071	91	Soup, vegetable beef, canned, condensed
06468	89	Soup, vegetarian vegetable, canned, prepared with equal volume water
99496	34	Sweet sauce, fermented (Kecap manis, purchased in Indonesia)
07 - Sausages and Luncheon Meats		
07956	89	Beef sausage, fresh, cooked
07905	91	Frankfurter, beef, pork, and turkey, fat free
07029	89	Ham, sliced, regular (approximately 11% fat)
07083	91	Sausage, Vienna, canned, chicken, beef, pork
08 - Breakfast Cereals		
08013	89	Cereals ready-to-eat, GENERAL MILLS, CHEERIOS
08390	91	Cereals ready-to-eat, KASHI Good Friends by Kellogg
08001	49	Cereals ready-to-eat, KELLOGG'S ALL-BRAN Original
99477	49	Cereals ready-to-eat, KELLOGG'S BRAN FLAKES (Purchased in the United Kingdom)
08020	49	Cereals ready-to-eat, KELLOGG'S CORN FLAKES
99480	49	Cereals ready-to-eat, KELLOGG'S FROSTIES (Purchased in the United Kingdom)
99481	49	Cereals ready-to-eat, KELLOGG'S FRUIT AND FIBER (Purchased in the United Kingdom)
08065	49	Cereals ready-to-eat, KELLOGG'S RICE KRISPIES
99482	49	Cereals ready-to-eat, KELLOGG'S RICELES (Purchased in the United Kingdom)
08067	49	Cereals ready-to-eat, KELLOGG'S SPECIAL K
99484	49	Cereals ready-to-eat, KELLOGG'S SULTANA BRAN (Purchased in the United Kingdom)
99581	49	Cereals ready-to-eat, QUAKER, Sugar Puffs (Purchased in the United Kingdom)
99522	49	Cereals ready-to-eat, REEVEY, Sugar Puffs (Purchased in the United Kingdom)
42237	49	Cereals ready-to-eat, WEETABX WHOLE WHEAT CEREAL
08090	31	Cereals, corn grits, white, regular and quick, enriched, dry
08102	31	Cereals, CREAM OF WHEAT, regular, dry
99562	49	Cereals, Scots Porridge oats, raw (purchased in the United Kingdom)
09 - Fruits and Fruit Juices		
09016	31	Apple juice, canned or bottled, unsweetened, without added ascorbic acid
97069	51	Apples, Golden Delicious, raw, with skin
97068	51	Apples, Golden Delicious, raw, without skin
97070	51	Apples, Granny Smith, raw, with skin
09003	31,51,89	Apples, raw, with skin
09004	51	Apples, raw, without skin
09005	51	Apples, raw, without skin, cooked, boiled
09024	51	Apricots, canned, juice pack, with skin, solids and liquids
09032	89	Apricots, dried, sulfured, uncooked
08021	31,51	Apricots, raw

List of Foods Containing Zero Values for Isoflavones

NDB No	Ref. No.	Description
09037	31,51	Avocados, raw, all commercial varieties
09040	31,51,89	Bananas, raw
09042	56	Blackberries, raw
09050	56,89	Blueberries, raw
09070	51	Cherries, sweet, raw
09433	51	Clementines, raw
09437	51	Courbanes, raw
09478	51	Courbanes, raw
09076	51,56	Courbanes, raw
09044	56	Currants, red, raw
09094	51	Figs, dried, uncooked
09089	51	Figs, raw
09099	51	Fruit cocktail, (peach and pineapple and pear and grape and cherry), canned, light syrup, solids and liquids
09107	51	Gooseberries, raw
09123	31	Grapefruit juice, white, canned, unsweetened
09172	89	Grapefruit, raw, pink and red, all areas
09120	51	Grapefruit, sections, canned, juice pack, solids and liquids
09048	51	Grapes, black
09047	31,51,89	Grapes, white or green, raw
09148	51	Kiwi fruit, (chinese gooseberries), fresh, raw
09152	51	Lemon juice, raw
09021	56	Lingonberries (cowberries), raw
09513	51	Lycorhes, canned, syrup
09526	51	Mango, canned, syrup pack
09176	31,51	Mangoes, raw
09181	31,51,89	Melons, cantaloupe, raw
09505	51	Melons, pella, raw
09184	51	Melons, honeydew, raw
09191	51	Nectarines, raw
09194	51,89	Olives, ripe, canned (jumbo-super colossol)
09200	31,51	Oranges, raw, all commercial varieties
09202	89	Oranges, raw, navel
09226	31	Peapayas, raw
09240	51	Peaches, canned, light syrup pack, solids and liquids
09236	31,51,89	Peaches, raw
09239	51	Pears without skin, raw
09256	51	Pears, canned, light syrup pack, solids and liquids
09252	31,51	Pears, raw
09268	51	Phaeapple, canned, juice pack, solids and liquids
09266	31,51	Phaeapple, raw, all varieties
09278	50	Plantains, cooked
09277	50	Plantains, raw
09291	89	Plums, dried (prunes), uncooked
09395	51	Plums, Greengage, raw
09286	51	Pomegranates, raw
09304	51	Raspberries, canned, red, heavy syrup pack, solids and liquids
09302	51,56,89	Raspberries, raw
09052	51	Rhubarb stalks, cooked
09207	51	Rhubarb, raw
09277	51	Strawberries, canned in syrup
09316	31,51,56,89	Strawberries, raw
09219	51	Tangerines, (mandarin oranges), canned, juice pack
09218	51	Tangerines, (mandarin oranges), raw
09326	31,51,89	Watermelon, raw
11 - Vegetables and Vegetable Products		
99003	86	Alfalfa seeds, sprouted, raw, mixed with clover seeds, sprouted, raw
11897	49	Arrowroot, raw
11012	50	Asparagus, cooked, boiled, drained
11053	89	Beans, snap, green, cooked, boiled, drained, without salt
11081	51	Beets, cooked, boiled, drained
11080	31	Beets, raw
11088	73	Broadbeans, immature seeds, raw
11091	89	Broccoli, cooked, boiled, drained, without salt
99470	50	Broccoli, green sprouting (calabrese), cooked

List of Foods Containing Zero Values for Isoflavones

NDB No	Ref. No.	Description
99469	50	Broccoli, green sprouting (calabrese), raw
11090	31	Broccoli, raw
11099	50	Brussels sprouts, cooked, boiled, drained, without salt
11098	50	Brussels sprouts, raw
11116	31	Cabbage, chinese (pau-choi), raw
11110	50	Cabbage, cooked, boiled, drained, without salt
11109	31,50,89	Cabbage, raw
11113	50	Cabbage, red, cooked, boiled, drained, without salt
11112	50	Cabbage, red, raw
11115	50	Cabbage, savoy, cooked, boiled, drained, without salt
11114	50	Cabbage, savoy, raw
11126	50	Carrots, canned, regular pack, solids and liquids
11125	50,89	Carrots, cooked, boiled, drained, without salt
11124	31,50,89	Carrots, raw
11935	31	Catsup
11136	50	Cauliflower, cooked, boiled, drained, without salt
11135	50	Cauliflower, raw
11142	50	Celerae, cooked, boiled, drained, without salt
11141	50	Celerae, raw
11144	50	Celery, cooked, boiled, drained, without salt
11143	50	Celery, raw
11152	50	Chicory greens, raw
11162	89	Collards, cooked, boiled, drained, without salt
11181	31	Collards, raw
11188	50,89	Corn, sweet, yellow, cooked, boiled, drained, without salt
11187	31,50	Corn, sweet, yellow, raw
11203	50	Cross, garden, raw
11206	31,50	Cucumber, peeled, raw
11205	50	Cucumber, with peel, raw
11210	50	Eggplant, cooked, boiled, drained, without salt
11209	50	Eggplant, raw
11957	50	Fennel, bulb, raw
11233	31	Kale, raw
11247	50	Leeks, (bulb and lower leaf-portion), cooked, boiled, drained, without salt
11246	50	Leeks, (bulb and lower leaf-portion), raw
11251	89	Lentils, cos or romaine, raw
11252	31,50	Lentils, cos or romaine, raw
11038	89	Lima beans, immature seeds, frozen, forhook, cooked, boiled, drained, without salt
11043	31,64,73,89	Mung beans, mature seeds, sprouted, raw
11261	50	Mushrooms, cooked, boiled, drained, without salt
11280	31,50	Mushrooms, white, raw
11863	31	Napales, raw
11278	31,50	Onion, raw
11283	50,89	Onions, cooked, boiled, drained, without salt
11282	31,50	Onions, raw
11292	50	Onions, young green, tops only
11299	50	Peas, green, frozen, cooked, boiled, drained, without salt
11288	50	Peas, green, raw
11300	73	Peas, edible-podded, raw
11306	50	Peas, green, canned, regular pack, solids and liquids
11305	50	Peas, green, cooked, boiled, drained, without salt
11313	50	Peas, green, frozen, cooked, boiled, drained, without salt
11304	73	Peas, green, raw
11670	31	Peppers, hot chili, green, raw
11333	31,50	Peppers, sweet, green, raw
99490	50	Potatoes, raw, cooked
11352	31,50	Potato, flesh and skin, raw
11385	50	Potatoes, boiled, cooked in skin, flesh, without salt
11367	89	Potatoes, boiled, cooked without skin, flesh, without salt
11380	31,89	Potatoes, french fried, crinkle or regular cut, salt added in processing, frozen, oven-heated
11359	50	Potatoes, red, flesh and skin, baked
11355	50	Potatoes, red, flesh and skin, raw
11423	89	Pumpkin, cooked, boiled, drained, without salt
11422	50	Pumpkin, raw

List of Foods Containing Zero Values for Isoflavones

NDB No	Ref. No.	Description
11429	50	Radishes, raw
11436	50	Rutabagas, cooked, boiled, drained, without salt
11435	50	Rutabagas, raw
11458	50,89	Spinach, cooked, boiled, drained, without salt
11457	31,50,89	Spinach, raw
11457	89	Spinach, raw
11478	50	Squash, summer, zucchini, includes skin cooked, boiled, drained, without salt
11477	50	Squash, summer, zucchini, includes skin, raw
98514	89	Squash, summer, zucchini, without skin, cooked
11488	89	Squash, winter, butternut, cooked, baked, without salt
11510	50,89	Sweet potato, cooked, boiled, without skin
11529	31,50,89	Tomatoes, red, ripe, raw, year round average
11565	50	Tumips, cooked, boiled, drained, without salt
11564	31,50	Tumips, raw
11591	50	Watercress, raw
12 - Nuts and Seeds		
12076	51	Nuts, brazilnuts, dried, unbleached
12097	51	Nuts, chestnuts, european, raw, unpeeled
12108	51	Nuts, coconut meat, dried (desiccated), not sweetened
12142	89	Nuts, pecans
12023	51,89	Seeds, sesame seeds, whole, dried
12038	31,51,89	Seeds, sunflower seed kernels, oil roasted, without salt
13 - Beef Products		
23587	31	Beef, ground, 85% lean meat / 15% fat, raw
14 - Beverages		
14006	89	Alcoholic beverage, beer, light
14003	31	Alcoholic beverage, beer, regular, all
14602	89	Alcoholic beverage, wine, table, red, Merlot
14106	89	Alcoholic beverage, wine, table, white
14201	89	Coffee, brewed from grounds, prepared with tap water, decaffeinated
14242	89	Cranberry juice cocktail, bottled
14355	31,89	Tea, brewed, prepared with tap water
99070	89	Tea, green, brewed
15 - Legume and Legume Products		
99512	89	Beans, adzuki, mature seeds, canned
18018	89	Beans, black turtle soup, mature seeds, canned
18014	2	Beans, black, mature seeds, raw
18024	24,31	Beans, great northern, mature seeds, raw
18028	24	Beans, kidney, all types, mature seeds, cooked, boiled, without salt
18027	73	Beans, kidney, all types, mature seeds, raw
18034	89	Beans, kidney, red, mature seeds, canned
18040	24	Beans, pink, mature seeds, raw
18047	2	Beans, yellow, mature seeds, raw
18054	89	Broadbeans (fava beans), mature seeds, canned
18053	50	Broadbeans (fava beans), mature seeds, cooked, boiled, without salt
18058	89	Chickpeas (garbanzo beans, bengal gram), mature seeds, canned
18070	50,89	Lentils, mature seeds, cooked, boiled, without salt
18071	73	Lima beans, large, mature seeds, raw
18074	24	Lima beans, thin seeded (baby), mature seeds, raw
99548	91	Peanut butter spread, reduced fat
18089	89	Peanuts, all types, oil-roasted, with salt
18 - Baked Products		
18376	91	Bread crumbs, dry, grated, seasoned
18029	91	Bread, french or viennese (includes sourdough)
18037	89	Bread, oat bran
18090	89	Bread, rye
99519	89	Bread, sesame, commercially prepared
18084	91	Bread, wheat
18075	89	Bread, whole-wheat, commercially prepared
18101	89	Cake, chocolate, prepared from recipe without frosting
18128	91	Cake, snack cakes, cream-filled, sponge
18159	89	Cookies, chocolate chip, commercially prepared, reg. higher fat, enriched
18230	89	Pancakes, plain, dry mix, complete, prepared

List of Foods Containing Zero Values for Isoflavones

NDB No	Ref. No.	Description
18326	89	Pie, pumpkin, commercially prepared
18342	91	Pies, dinner, plain, commercially prepared (includes brown-and-serve)
18384	31	Tortillas, ready-to-bake or -fry, flour
19 - Sweets		
19205	99	Egg custards, dry mix, prepared with 2% milk
18314	51	Pie fillings, canned, cherry
19218	49	Puddings, laploca, ready-to-eat
20 - Cereal Grains and Pasta		
20100	49	Macaroni, cooked, enriched
20110	49	Noodles, egg, cooked, enriched
20038	49	Oats
98567	49	Pasta, lasagne, boiled
98566	49	Pasta, lasagne, raw
20037	49	Rice, brown, long-grain, cooked
20047	89	Rice, white, long-grain, parboiled, enriched, cooked
20045	49	Rice, white, long-grain, regular, cooked
20044	31,49	Rice, white, long-grain, regular, raw, enriched
98542	49	Sago
20125	49	Spaghetti, whole-wheat, cooked
20077	49	Wheat bran, crude
20081	49	Wheat flour, white, all-purpose, enriched, bleached
20088	31	Wild rice, raw
21 - Fast Foods		
98556	91	SUBWAY, Chicken teriyaki strips sandwich
22 - Meats, Entrees, and Side Dishes		
22518	91	CHEF BOYARDEE Spaghetti and Meatballs in tomato Sauce, canned entree
22910	89	Lasagna, Cheese, frozen, prepared
98536	99	Lasagna, vegetable, commercially prepared (Purchased in the United Kingdom)
25 - Snacks		
98475	91	Chips, potato, sweet onion
18033	91	Snacks, CHEX mix
18016	89	Snacks, granola bars, hard, almond
18042	91	Snacks, potato chips, barbecue-flavor
19411	31	Snacks, potato chips, plain, salted
19056	31	Snacks, tortilla chips, plain, white corn

NDB No.	Description	Reference No.	Coumestrol	Formononetin	Biochanin A
01 - Dairy and Eggs					
01079	Milk, reduced fat, fluid, 2% milkfat, with added vitamin A	89	0.00	0.00	
01123	Egg, whole, raw, fresh	31	0.00	0.05	0.05
09533	Non-dairy creamer, with added soy flour or soy protein	31	0.05	0.00	0.00
02 - Spices and Herbs					
02019	Spices, fenugreek seed	57	0.00	0.01	0.01
04 - Fats and Oils					
42178	Mayonnaise, made with tolu	84	0.00		
99423	Olive oil, extra-virgin	89	0.00	0.00	
06 - Soups, Sauces and Gravies					
99503	Black bean, sauce	31, 89	0.15	0.00	0.00
99494	Miso soup	31, 89	0.04	0.01	0.00
06419	Soup, chicken noodle, canned, prepared with equal volume water	89	0.00	0.00	
99502	Soup, pea, reheated	89	0.00	0.00	
06468	Soup, vegetarian vegetable, canned, prepared with equal volume water	89	0.00	0.00	
07 - Sausages and Luncheon Meats					
07356	Beef sausage, fresh, cooked	89	0.00	0.00	
07023	Frankfurter, beef and pork	89	0.00	0.00	
07029	Ham, sliced, regular (approximately 11% fat)	89	0.00	0.00	
08 - Breakfast Cereals					
08013	Cereals ready-to-eat, GENERAL MILLS, CHEERIOS	89	0.00	0.00	
08060	Cereals ready-to-eat, KELLOGG, KELLOGG'S RASIN BRAN	89	0.00	0.00	
08234	Cereals, QUAKER, oatmeal, instant, low sodium, prepared with water	89	0.00	0.00	
09 - Fruit and Fruit Juices					
09003	Apples, raw, with skin	89	0.00	0.00	
09032	Apricots, dried, sulfured, uncooked	31, 89	0.00	0.00	0.05
09040	Bananas, raw	89	0.00	0.00	
09050	Blueberries, raw	89	0.00	0.00	
99521	Cranberries, boiled	89	0.00	0.00	
99073	Currants, dried	89	0.00	0.00	
09083	Currants, european black, raw	89	0.00	0.00	
09087	Dates, deglet noor	89	0.00	0.00	
09112	Grapefruit, raw, pink and red, all areas	89	0.00	0.00	
09116	Grapefruit, raw, white, all areas	31	0.05	0.05	0.05
99047	Grapes, white or green, raw	89	0.00	0.00	
09181	Melons, cantaloupe, raw	89	0.00	0.00	
09194	Olives, ripe, canned (jumbo-super colossal)	89	0.00	0.00	
09208	Orange juice, chilled, includes from concentrate	31, 89	0.03	0.03	0.05
09202	Oranges, raw, navels	89	0.00	0.00	
09236	Peaches, raw	31, 89	0.00	0.00	0.00
09291	Plums, dried (prunes), uncooked	31, 89	0.00	0.00	0.00

NDB No.	Description	Reference No.	Coumestrol	Formononetin	Biochanin A
09298	Raisins, seedless	31, 89	0.00	0.00	0.00
09302	Raspberries, raw	89	0.00	0.00	
09316	Strawberries, raw	89	0.00	0.00	
09328	Watermelon, raw	89	0.00	0.00	
11 - Vegetables and Vegetable Products					
11001	Alfalfa seeds, sprouted, raw	24, 31, 89	1.90	1.43	0.04
11011	Asparagus, raw	31	0.05	0.00	0.00
11053	Beans, snap, green, cooked	24			
11053	Beans, snap, green, cooked, boiled, drained, without salt	24, 89	0.00	0.01	0.04
11052	Beans, snap, green, raw	24	0.00	0.15	0.04
11088	Brodbears, immature seeds, raw	73	0.00	0.00	0.00
99549	Broccoli sprouts, raw	31	0.00	0.00	0.00
11091	Broccoli, boiled in water, drained, without salt	89	0.00	0.00	
11109	Cabbage, raw	89	0.00	0.00	
11125	Carrots, cooked, boiled, drained, without salt	89	0.00	0.00	
11124	Carrots, raw	31, 89	0.00	0.00	0.00
99009	Clover sprouts, raw	24, 31	14.08	3.15	0.59
11162	Collards, cooked, boiled, drained, without salt	89	0.00	0.00	
11168	Corn, sweet, yellow, cooked, boiled, drained, without salt	89	0.00	0.00	
11215	Garlic, raw	31, 89	0.00	0.00	0.05
11251	Lettuce, cos or romaine, raw	89	0.00	0.00	
11038	Lima beans, immature seeds, frozen, fordhok, cooked, boiled, drained, without salt	89	0.00	0.00	
11043	Mung bean, mature seeds, sprouted, raw	24, 31, 64, 73, 89	0.93	0.01	0.01
11283	Onions, cooked, boiled, drained, without salt	89	0.00	0.00	
11303	Peas, edible-podded, raw	73	0.00	0.00	0.00
11304	Peas, green, raw	73	0.00	0.00	0.00
11367	Potatoes, boiled, cooked without skin, flesh, without salt	89	0.00	0.00	
11360	Potatoes, french fried, crinkle or regular cut, salt added in processing, frozen, oven-heated	89	0.00	0.00	
11423	Pumpkin, cooked, boiled, drained, without salt	89	0.00	0.00	
99571	Red clover	77	1322.00	833.00	
11667	Seaweed, spirulina, dried	89	0.00	0.00	
11451	Soybeans, green, cooked, boiled, drained, without salt	24	0.00	0.00	0.00
11450	Soybeans, green, raw (includes edamame)	2, 24, 73	0.00	0.00	0.00
11452	Soybeans, mature seeds, sprouted, raw	31, 64, 73, 89, 97	0.34	0.03	0.00
11458	Spinach, cooked, boiled, drained, without salt	89	0.00	0.00	
11457	Spinach, raw	89	0.00	0.00	
99514	Squash, summer, zucchini, without skin, cooked	89	0.00	0.00	

NDB No.	Description	Reference No.	Coumestrol	Formononetin	Biochanin A
11468	Squash, winter, butternut, cooked, baked, without salt	89	0.00	0.00	
11507	Sweet potato, raw, unprepared	31	0.00	0.00	0.00
11510	Sweet potatoes, without skin, boiled in water, drained	89	0.00	0.00	
11529	Tomatoes, red, ripe, raw, year round average	89	0.00	0.00	
11578	Vegetable juice cocktail, canned average	89	0.00	0.00	
12 - Nuts and Seeds					
12061	Nuts, almonds	89	0.02	0.00	
12087	Nuts, cashew nuts, raw	89	0.00	0.01	
12101	Nuts, chestnuts, european, boiled and steamed	89	0.00	0.00	
12120	Nuts, hazelnuts or filberts	89	0.00	0.00	
12142	Nuts, pecans	89	0.00	0.00	
12151	Nuts, pistachio nuts, raw	89	0.01	0.00	
12155	Nuts, walnuts, english	89	0.00	0.00	
12220	Seeds, flaxseed	59, 89	0.03	0.01	0.00
12023	Seeds, sesame seeds, whole, dried	89	0.00	0.00	
12036	Seeds, sunflower seed kernels, dried	59	0.01	0.03	0.01
12038	Seeds, sunflower seed kernels, oil roasted, without salt	31, 89	0.00	0.00	0.00
14 - Beverages					
14006	Alcoholic beverage, beer, light	89	0.00	0.00	
14602	Alcoholic Beverage, wine, table, red, merlot	89	0.00	0.01	
14106	Alcoholic beverage, wine, table, white	89	0.00	0.00	
14209	Coffee, brewed from grounds, prepared with tap water	31, 89	0.03	0.00	0.00
14201	Coffee, brewed from grounds, prepared with tap water, decaffeinated	89	0.00	0.00	
14242	Cranberry juice cocktail, bottled	89	0.00	0.00	
99020	Lapacho tea (Tacoma heptaphylla)	59	0.00	0.01	0.04
14355	Tea, brewed, prepared with tap water	89	0.00	0.00	
99070	Tea, green, brewed	89	0.00	0.00	
99107	Tea, green, Japan (infusion)	57	0.03		
99108	Tea, jasmine, Twinings (infusion)	57	0.03		
15 - Finfish and Shellfish Products					
15184	Fish, tuna, light, canned in water, without salt, drained solids	89	0.00	0.00	
16 - Legumes and Legume Products					
16104	Bacon, meatless	89	0.00	0.00	
99512	Beans, adzuki, mature seeds, canned	89	0.00	0.00	
16001	Beans, adzuki, mature seeds, raw	73	0.00	0.00	0.00
16009	Beans, baked, canned, with pork	89	0.00	0.00	
16018	Beans, black turtle soup, mature seeds, canned	89	0.00	0.00	
16014	Beans, black, mature seeds, raw	2	0.00	0.00	0.00
99486	Beans, common, raw (Phaseolus vulgaris)	2	0.01	0.00	0.00
16019	Beans, cranberry (ronan), mature seeds, raw	2	0.00	0.00	0.00

NDB No.	Description	Reference No.	Coumestrol	Formononetin	Biochanin A
16024	Beans, great northern, mature seeds, raw	24	0.00	0.00	0.80
16028	Beans, kidney, all types, mature seeds cooked, boiled, without salt	24	0.00	0.00	0.41
16027	Beans, kidney, all types, mature seeds, raw	57, 73	0.00	0.00	0.04
16034	Beans, kidney, red, mature seeds, canned	89	0.00	0.00	
16032	Beans, kidney, red, mature seeds, raw	57	0.00	0.00	0.01
16037	Beans, navy, mature seeds, raw	24, 57	0.00	0.00	0.02
16040	Beans, pinto, mature seeds, raw	24	0.00	1.05	0.00
16042	Beans, pinto, mature seeds, raw	24, 57	1.80	0.01	0.28
99028	Beans, red, mature seeds, raw	24	0.07	0.00	0.00
16045	Beans, small white, mature seeds, raw	24	0.00	0.82	0.00
16050	Beans, white, mature seeds, cooked, boiled, without salt	89	0.00	0.00	
16049	Beans, white, mature seeds, raw	2	0.00	0.00	0.01
16047	Beans, yellow, mature seeds, raw	2	0.00	0.00	0.00
99008	Broad beans, fried	24	0.00	0.21	0.00
16054	Broadbeans (fava beans), mature seeds, canned	89	0.00	0.00	
16052	Broadbeans (fava beans), mature seeds, raw	2, 57, 73	0.00	0.01	0.12
16058	Chickpeas (garbanzo beans, bengal gram), mature seeds, canned	89	0.00	0.00	
16056	Chickpeas (garbanzo beans, bengal gram), mature seeds, raw	2, 24, 31, 57, 73	0.01	0.12	1.54
16062	Compeas, common, (blackeyes, crowder, southern), mature seeds, raw	24, 57	0.01	0.00	0.58
16158	Hummus, commercial	89	0.00	0.00	
99019	Kala chana, mature seeds, raw	24	6.13	0.00	1.28
10070	Lenilis, mature seeds, cooked, boiled, without salt	89	0.00	0.01	
16089	Lenilis, raw	2, 57	0.00	0.00	0.00
16072	Lima beans, large, mature seeds, cooked, boiled without salt	24	0.00	0.01	0.00
16071	Lima beans, large, mature seeds, raw	24, 57, 73	0.14	0.32	0.27
16074	Lima beans, thin seeded (baby), mature seeds, raw	24	0.00	0.55	0.37
16078	Lupinus, mature seeds, raw	2	0.00	0.00	0.00
16112	Miso	89	0.00	0.01	
16081	Mung beans, mature seeds, cooked, boiled, without salt	89	0.00	0.00	
16080	Mung beans, mature seeds, raw	24, 57, 64, 73	0.00	0.21	0.00
16083	Mungo beans, mature seeds, raw	57, 73	0.00	0.00	0.02
16150	Peanut butter, smooth, reduced fat	89	0.00	0.00	
16089	Peanuts, all types, oil-roasted, with salt	89	0.00	0.00	
16087	Peanuts, all types, raw	57	0.00	0.00	0.01
16085	Peas, split, mature seeds, raw	2, 24, 57, 730.61	0.00	0.09	
99487	Peas, yellow, mature seeds, raw	73	0.00	0.00	0.00
16101	Pigeon peas (red gram), mature seeds, raw	57	0.01	0.02	0.10
16107	Sausage, meatless	64	0.00		
99492	Scarlet runner bean, mature seeds, raw	73	0.00	0.00	0.00
16117	Soy flour, defatted	64, 77	0.00	0.00	0.00
16115	Soy flour, full-fat, raw	24, 58, 77	0.00	0.01	0.02

NDB No.	Description	Reference No.	Coumestrol	Formononetin	Biochanin A
99511	Soy lecithin	64	0.00		
16119	Soy meal, defatted, raw	97	0.00	0.00	
16120	Soy milk, original and vanilla, unfortified	34, 97	0.01	0.00	
16139	Soy milk, original and vanilla, with added calcium, vitamins A and D	31, 89	0.12	0.00	0.00
99038	Soy paste	97	0.00	0.00	
16123	Soy sauce made from soy and wheat (shoyu)	31, 89, 97	0.02	0.00	0.00
99510	Soy yogurt	89	0.00	0.00	
99100	Soybeans, green, mature seeds, raw	73	0.00	0.00	0.00
16109	Soybeans, mature seeds, cooked, boiled, without salt	89	0.00	0.00	0.00
16111	Soybeans, mature seeds, dry roasted	24, 89	0.02	0.03	0.00
16108	Soybeans, mature seeds, raw	2, 24, 31, 44, 57, 64, 73, 89, 89	0.02	8.46	0.00
99488	Soybeans, mature seeds, raw (China)	73	0.00	0.00	0.00
99092	Soybeans, mature seeds, raw (Japan)	24, 73	0.00	0.00	0.00
99093	Soybeans, mature seeds, raw (Korea)	73	0.00	0.00	0.00
99040	Soybeans, mature seeds, raw (Taiwan)	24, 73	0.00	0.00	0.00
99091	Soybeans, mature seeds, raw (US, commodity grade)	24, 97	0.00	0.00	0.00
99053	Soy milk skin or film (f'oo look or yuba), raw	97	0.00	0.00	
99559	Soy milk, made from soy isolate (purchased in Australia)	34	0.00		
16174	Tempeh, cooked	89	0.00	0.00	
16126	Tofu, dried-frozen (koyadofu)	97	0.00	0.00	
99529	Tofu, firm, cooked	89	0.00	0.00	
16126	Tofu, firm, prepared with calcium sulfate and magnesium chloride (nigari)	31, 64, 97	0.12	0.00	0.00
16427	Tofu, raw, regular, prepared with calcium sulfate	24	0.00	0.00	0.00
16132	Tofu, salted and fermented (tuyu)	97	0.00	0.00	
16127	Tofu, soft, prepared with calcium sulfate and magnesium chloride (nigari)	97	0.00	0.00	
16147	Veggie burgers or soyburgers, unprepared	31, 89	0.00	0.00	0.00
18 - Baked Products					
99001	9-grain bread	59	0.00	0.00	0.00
99010	Bread, country rye, Finland	59	0.00	0.01	0.00
99518	Bread, flax, commercially prepared	89	0.00	0.00	
18035	Bread, multi-Grain (includes whole-grain)	89	0.00	0.00	
18037	Bread, oat bran	89	0.00	0.00	
18060	Bread, rye	89	0.00	0.00	
99519	Bread, seazame, commercially prepared	89	0.00	0.00	
18069	Bread, white, commercially prepared (includes soft bread crumbs)	89	0.00	0.00	
99515	Bread, white, commercially prepared, with added soy flour or soy protein	31	0.09	0.00	0.00
99516	Bread, whole grain, commercially prepared, with added soy flour or soy protein	31	0.05	0.00	0.00
18075	Bread, whole-wheat, commercially prepared	89	0.00	0.00	

NDB No.	Description	Reference No.	Coumestrol	Formononetin	Biochanin A
16101	Cake, chocolate, prepared from recipe without frosting	89	0.00	0.00	
16159	Cookies, chocolate chip, commercially prepared, reg, higher fat, enriched	89	0.00	0.00	
16216	Crackers, crispbread, rye	59	0.01	0.00	0.00
16248	Doughnuts, cake-type, plain (includes unsugared, old-fashioned)	89	0.00	0.00	
99509	Doughnuts, with added soy flour or soy protein	31	0.24	0.00	0.05
99508	English muffins, with added soy flour or soy protein	31	0.00	0.00	0.00
16230	Pancakes, plain, dry mix, complete, prepared	89	0.00	0.00	
16328	Pie, pumpkin, commercially prepared	89	0.00	0.00	
19 - Sweets					
99474	Licorice, black, soft candy	31, 89	0.00	0.85	0.00
20 - Cereal grains and Pasta					
20029	Couscous, cooked	89	0.00	0.00	
20047	Rice, white, long-grain, parboiled, enriched, cooked	89	0.00	0.00	
22903	Pizza, pepperoni topping, regular crust, frozen, cooked	89	0.00	0.00	
22910	Lasagna, Cheese, frozen, prepared	89	0.00	0.00	
25 - Snacks					
25017	Formulated bar, POWER BAR, chocolate	31	0.09	0.00	0.00
19016	Snacks, granola bars, hard, almond	89	0.00	0.00	
19015	Snacks, granola bars, hard, plain	59	0.01	0.00	0.00

Isoflavones References

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J. Food Biochem., 2006, 30, 234-247.
Soybeans, Soy milk.
Daidzein, Genistein, Glycitein.
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Isoflavone transformation during soybean koji preparation and subsequent miso fermentation supplemented with ethanol and NaCl.
J. Agric. Food Chem., 2001, 49, 3656-3660.
Soybeans, Koji, Miso.
Daidzein, Genistein.
9. Choi, Y.-S., Lee, B.-H., Kim, J.-H., and Kim, N.-S.
Concentration of phytoestrogens in soybeans and soybean products in Korea.
J. Sci. Food Agric., 2000, 80, 1709-1712.
Soybean cultivars from Korea (modern, landraces, wild)), China, Soybean sprouts, Soybean curd, Soy milk, Chungjukjang (natto), Kochujang (hot soybean paste), Denjang (soybean paste), Kanjang (soybean paste).
Daidzein, Genistein.
10. Choi, J.-S., C., Kwon, T.-W., and Kim, J.-S.
Isoflavone contents in some varieties of soybean.
Foods and Biotechnology, 1996, 5, 167-169.
Soybeans (Korean- Black #1, Kwangan, Danbaik, Danyop, Mammi, Moothan, Paikoon, Bokwang, Paldal, Sinpaldal, Janggyung, Jangsu, Janyop, Taekwang, Purcun, Hwaum, Hwangkeum, Sinpaldal #2)
Daidzein, Genistein.
11. Coward, L., Smith, M., Kirk, M., and Barnes, S.
Chemical modification of isoflavones in soy foods during cooking and processing.
Am. J. Clin. Nutr., 1998, 68(S), 1486S-1491S.
Soybeans, Toasted soy flour, Soy flour, Isolated soy protein, Textured vegetable protein, Regular soy milk, Low-fat soy milk, Non-fat soy milk, Regular tofu, Low-fat tofu.
Daidzein, Genistein, Glycitein.
12. Coward, L., Kirk, M., Albin, N., and Barnes, S.
Analysis of plasma isoflavones by reverse-phase HPLC-multiple reaction ion monitoring-mass spectrometry.
Clinica Chimica Acta, 1996, 247, 121-142.
Soy protein isolate (beverages made with isolated soy proteins)
Daidzein, Genistein, Glycitein.

13. Coward, L., Barnes, N., Setchell, K D R., and Barnes, S.
Genistein, Daidzein, and their β -glycoside conjugates: Antitumor isoflavones in soybean foods from American and Asian diets.
J. Agric. Food Chem., 1993, 41, 1961-1967.
Miso, Rice miso, Barley miso (soup mix), Aka miso (soup mix), Soybean paste, Soybean paste (rice), Soybean paste (wheat), Soy sauce, Soy cheese, Tofu, Ice bean, Soybean chips, Soy flours (Nutrisoy, Nutrisoy B, baker's Nutrisoy, toasted Nutrisoy), Soy concentrates (water extracted, Arcon F, Arcon S - alcohol extracted), Soy isolate, Soy fiber
Daidzein, Genistein.
14. Downing, J. M., Chang, O. K., Seib, P. A., and Hubbard, J. D.
Pressurized solvent extraction of genistein and its β -glucoside conjugates from soybean flours and soy-based foods.
Cereal Chemistry, 2007, 84, 44-47.
Soybean flours, Soy nuts, Soy meat substitute (patty).
Genistein.
15. Duke, S. O., Rimando, A. M., Pace, P. F., Reddy, K. N., and Smuda, R. J.
Isoflavone, glycoside, and aminomethylphosphonic acid levels in seeds of glycosylated-resistant soybean.
J. Agric. Food Chem., 2003, 51, 340-344.
Soybean.
Daidzein, Genistein, Glycitein.
16. Dwyer, J. T., Goldin, B. R., Saul, N., Gualtieri, L., Barakat, S. and Adlercreutz, H.
Tofu and soy drinks contain phytoestrogens.
J. Am. Diet. Assoc., 1994, 94, 739-743.
Tofu (Kikkoman), Tofu (Nasoya soft), Tofu (Vitasoy silken), Soy drink (First Alternative), Soy based formulas (Levity isotonic, Enrich, Glucerna)
Daidzein, Genistein.
17. Eisen, B., Ungar, Y., and Shimoni, E.
Stability of isoflavones in soy milk stored at elevated and ambient temperatures.
J. Agric. Food Chem., 2003, 51, 2212-2215.
Soy milk.
Daidzein, Genistein.
18. Eldridge, A. C. and Kwolek, W. F.
Soybean isoflavones: Effect of environment and variety on composition.
J. Agric. Food Chem., 1983, 31, 394-396.
Soybean flakes (fullfat and defatted, Tiger var.), Soybeans (Hardin 1980, Clark, Amsoy, Amcor, Sprite, Century and Corsey 1979 varieties)
Daidzein, Genistein, Glycitein.
19. Fang, N., Yu, S., and Badger, T. M.
Comprehensive phytochemical profile of soy isolate.
J. Agric. Food Chem., 2004, 52, 4012-4020.
Soy protein isolate.
Daidzein, Genistein, Glycitein, Soyasaponins.
20. Farmakalidis, E. and Murphy, P. A.
Isolation of 6"-O-Acetylgenistein and 6"-O-Acetylgenistein from toasted defatted soyflakes
J. Agric. Food Chem., 1985, 33, 385-389.
Soybeans (Amsoy 71-1982, Vinton 81-1982, Strayer, Weber)
Daidzein, Genistein.
21. Fenner, G. P.
Low-temperature treatment of soybean (Glycine max) isoflavonoid aglycon extracts improves gas chromatographic resolution.
J. Agric. Food Chem., 1996, 44, 3727-3729.
Soybean meal (Glycine max)
Daidzein, Genistein.
22. Franke, A. A., Hankin, J. H., Yu, M. C., Maskarinec, G., Low, S.-H., and Custer, L.
Isoflavone levels in soy foods consumed by multiethnic populations in Singapore and Hawaii.
J. Agric. Food Chem., 1999, 47, 977-986.
Raw and cooked tofu, Raw and cooked tau kwa, Raw and cooked tau pok, Raw and cooked foo jook, Raw and cooked soybeans, Fermented tofu, Firm tofu, Soft tofu, Cooked green soybean seeds, Cooked soy sprouts, Soy milk, Miso, Natto, Soy protein drinks (Garcinia-max diet chocolate shake, Light and Fit energy shake, Slim and Trim diet shake, Down-to Earth Spiru-tein, Cappuccino, Chocolate peanut butter Spiru-tein, Super Green Pro-96, Plain Take Care), Chocolate soy milk, Pacific soy milk, Soy cheeses (Fat free jalapeno Monterey Jack, Swiss alternative veggie singles, American alternative veggie singles, Nu Tofu mozzarella, Nu Tofu cheddar, Gourmet style soy mozzarella, Soy burgers (Garden veggie, Natural Touch vegan burger, Boca burger), Soy flours (Arrowhead, DownEarth), Raw and roasted soybean seeds, Soy supplements (Genistein food supplement, Soy super complex, Vegetarian enzyme complex).
Daidzein, Genistein, Glycitein.
23. Franke, A. A., Custer, L. J., Wang, W., and Shi, C. Y.
HPLC analysis of isoflavonoids and other phenolic agents from foods and from human fluids.
Proc. Soc. Exp. Biol. Med., 1998, 217, 263-273.
Soy beans (raw, dry, Singapore), Soy beans (roasted), Soybeans (toasted), Green soy bean pods, Soy protein, Soy bean sprouts, Tofu (raw), Tofu (fermented, Singapore), Curd (fermented), Soy milk, Soy cheese, Foo look (skimmed, dry supernatant, raw, Singapore), Foo look (cooked), Tau Kwa, raw (pressed tofu, raw, Singapore), Tau Pok, raw (fried Tau Kwa, Singapore), Bean curd (fried).

- Daidzein, Genistein, Glycitein.
24. Franke, A. A., Custer, L. J., Cerna, C. M., and Narula, K. Rapid HPLC analysis of dietary phytoestrogens from legumes and from human urine. *Proc. Soc. Exp. Biol. Med.*, 2008, 195, 18-26.
Soy beans (dry, U.S., Japan), Soy beans, roasted (Japan), Soy beans (fresh, raw), soy beans (boiled, U.S., Taiwan), Soy flour (U.S.), Tofu, Black soy beans (raw and boiled), Red bean seeds (dry), Broad beans (fried), Small white beans (dry), Kala chana seeds (dry), Clover sprouts, Alfalfa sprouts, Black bean seeds, Green beans (fresh raw and boiled), Large lima beans (dry and boiled), Garbanzo (dry), Kidney beans (cooked), Pinto beans (dry), White navy beans (dry), Small lima beans (dry), Great northern beans (dry), pink beans (dry), Blackeyed beans (dry), Yellow split beans (dry), Mung beans (dry), red beans (boiled), Lentils, Urad dahl, Masur dahl.
Daidzein, Genistein, Coumestrol, Formononetin, Biochanin-A.
25. Fukutake, M., Takahashi, M., Ishida, K., Kawamura, H., Sugimura, T., and Wakabayashi, K. Quantification of genistein and genistin in soybeans and soybean products. *Food and Chemical Toxicology*, 1996, 34, 457-461.
Soybeans, Soy nuts, Fava beans, Soy powder, Soy milk, Tofu, Miso, Natto, Soy sauce, Genistein.
26. Ganzera, M. and Stuppner, H. Simultaneous determination of saponins and isoflavones in soybean (Glycine max L.) by reversed-phase liquid chromatography with evaporative light-scattering ultraviolet detection. *J. AOAC Int.*, 2004, 87, 1189-1194.
Soybeans.
Daidzein, Genistein, Glycitein, Saponins.
27. Genovese, M. I., Hassimoto, N. M. A., and Lajolo, F. M. Isoflavone profile and antioxidant activity of Brazilian soybean varieties. *Food Sci. Tech. Int.*, 2005, 11, 205-211.
Soybeans (30 Brazilian varieties).
Daidzein, Genistein, Glycitein.
28. Genovese, M. I. and Lajolo, F. M. Isoflavones in soy-based foods consumed in Brazil: Levels, distribution, and estimated intakes. *J. Agric. Food Chem.*, 2002, 50, 5987-5993.
Soy-based infant formulas (Aliso, Aptamil 1 and 2, Nursoy, Pregomin, Prosobee, Nestogeno), Oral/Enteral diets (Soyae, Soya diet, Ensure, Diet shake), Textured soy proteins.
Daidzein, Genistein, Glycitein.
29. Gentile, C., Testier, L., Butera, D., Fazzari, M., Monastero, M., Allegra, M., and Livera, M. A. Antioxidant activity of Sicilian pistachio (*Pistacia vera* L. Var Bronte) nut extract and its bioactive components. *J. Agric. Food Chem.*, 2007, 55, 643-648.
Pistachio.
Daidzein, Genistein.
30. Grün, I. U., Adhikari, K., Li, C., Li, Y., Lin, B., Zhang, J., and Fernando, L. N. Changes in the profile of genistein, daidzein, and their conjugates during thermal processing of tofu. *J. Agric. Food Chem.*, 2001, 49, 2839-2843.
Tofu.
Daidzein, Genistein.
31. Horn-Ross, P. L., Barnes, S., Lee, M., Coward, L., Mandel, E., Koo, J., John, E. M., and Smith, M. Assessing phytoestrogen exposure in epidemiologic studies: development of a database (United States). *Cancer Causes and Control*, 2000, 11, 289-298.
Soy-based foods (Chinese black bean sauce, Miso soup, Soybean seeds, Soybean sprouts, Soy milk, Soy sauce, Tofu, Foods with added soy flour or protein (White bread, Whole grain bread, English muffins, Canned chili, Canned tuna, Diet shakes/nutritional supplements, Doughnuts, Ice cream, Non-dairy creamer, Pancakes/waffles, Pizza, "Power" type bars, "Soy/veggie" burgers, Vegetables and Legumes (Alfalfa sprouts, Asparagus, Broccoli sprouts, Carrots, Cauliflower, Clover sprouts, Garlic, Garbanzo beans, Mung bean sprouts, Sweet potatoes), Fruits (Dried apricots, Grapefruit, Orange juice, Peaches, Pines, Raisins), Other (Coffee, Eggs, Black licorice, Sunflower seeds).
Daidzein, Genistein, Glycitein, Biochanin A, Formononetin, Coumestrol, Matairesinol, Secoisilicicresinol.
32. Hou, H. J. and Chang, K. C. Interconversions of isoflavones in soybeans as affected by storage. *J. Food Sci.*, 2002, 67, 2083-2089.
Soybeans.
Daidzein, Genistein, Glycitein.
33. Huang, T.-C., Fu, H.-X., and Ho, C.-T. Comparative studies on some attributes of firm tofu sterilized with traditional and autoclaving methods. *J. Agric. Food Chem.*, 2003, 51, 254-259.
Tofu, firm.
Daidzein, Genistein, Glycitein.
34. Hutebarat, L. S., Greenfield, H., and Mulholland, M. Isoflavones and coumestrol in soybeans and soybean products from Australia and Indonesia.

- J. Food Comp. Anal.*, 2001, 14, 43-58.

Soybeans (USA, Indonesia, Australia: McKenzie's, Bowyer Riverina NSW), Fresh soybeans (Indonesia, Imported from China), Canned soybeans (Australia), Soy milk products Australia (So-Good, So-Good Lite, Good Life, Soy drinks No Frills, Soy drink Sungold, Vitalife Natural foods, Vitasoy Vitasoy Int., Natures, So Natural, Soya drink, Instant soy powder), Tofu products from Indonesia (Susu Kedelai Mony, Soya bean milk, Susu Kedelai tradisional), Tofu products from Australia (Hard, Silken, Smoked, Firm, W with tempeh, Cutlets, Nigari, Organic), Tofu from Indonesia (Traditional, Silken, Tahu Tau Kua, Skake)

Daidzein, Genistein, Coumestrol.
35. **Hutchins, A. M., Slavin, J. L., and Lampe, J. W.**

Urinary isoflavonoid phytoestrogen and lignan excretion after consumption of fermented and unfermented soy products.

J. Am. Diet. Assoc., 1995, 95, 545-551.

Tempeh.

Daidzein, Genistein.
36. **Jackson, C., J. C., Dini, J. P., Lavandier, C., Rupasinghe, H. P. V., Faulkner, H., Poysa, V., Buzzell, D., and DeGrandis, S.**

Effects of processing on the content and composition of isoflavones during manufacturing of soy beverage and tofu.

Process Biochemistry, 2002, 37, 1117-1123.

Soybeans, Soy beverage, Tofu.

Daidzein, Genistein, Glycitein.
37. **Johns, P., Dowlati, L., and Wargo, W.**

Determination of isoflavones in ready-to-feed soy-based infant formula.

J. AOAC Int., 2003, 86, 72-78.

Ready-to-feed soy-based infant formula (Isomil).

Daidzein, Genistein, Glycitein.
38. **Jones, A. E., Price, K. R., and Fenwick, G. R.**

Development and application of a high-performance liquid chromatographic method for the analysis of phytoestrogens.

J. Sci. Food Agric., 1989, 46, 357-364.

Soya milk, Soya dessert, Soya flakes

Daidzein, Genistein.
39. **Kao, F.-J., Su, N.-W., and Lee, M.-H.**

Effect of water-to-bean ratio on the contents and compositions of isoflavones in tofu.

J. Agric. Food Chem., 2004, 52, 2277-2281.

Soybeans, Tofu.

Daidzein, Genistein.
40. **Kim, J. J., Kim, S. Y., Hahn, S. J., and Chung, I. M.**

Changing soybean isoflavone composition and concentrations under two different storage conditions over three years.

Food Res. Int., 2005, 38, 435-444.

Soybeans from Korea (cultivars Muhan, Daweon, Myeongjumanul, Jinpum2, Taekwang, Geonjeong1, Pureun, Hamnam).

Daidzein, Genistein, Glycitein.
41. **Kim, K.-S., Kim, M.-J., Park, J.-S., Sohn, H.-S., and Kwon, D. Y.**

Compositions of functional components of traditional Korean soybeans.

Food Sci. Biotechnol., 2003, 12, 157-160.

Soybeans from Korea (cultivars Cheongtae, Seoritae, Jinjooi, Subakiae, Yutae).

Daidzein, Genistein, Glycitein.
42. **King, R. A., and Bignell, C. M.**

Concentrations of isoflavone phytoestrogens and their glucosides in Australian soya beans and soya foods.

Aust. J. Nutr. Diet., 2000, 57, 70-78.

Soybeans (6 cultivars planted in Jan. 1998 and Dec. 1998), Soybeans (4 cultivars), Canned soybeans, Soy and linseed breads, White breads, Powdered soy drink mixes, Soy flakes, Soy flour, Soy grits, Soymilk, Soy sauce, Tofu, Tofu mix, Textured vegetable protein.

Daidzein, Genistein, Glycitein.
43. **King, R. A., Mano, M. M., and Head, R. J.**

Assessment of isoflavonoid concentrations in Australian bovine milk samples.

J. Dairy Res., 1998, 65, 479-489.

Cow milk (different seasons).

Genistein.
44. **Kledjus, B., Mikelová, R., Petrolova, J., Potěšil, D., Adam, V., Stiborová, M., Hošek, P., Vacek, J., Kizek, R., and Kubáň, V.**

Evaluation of isoflavone aglycon and glycoside distribution in soy plants and soybeans by fast column high-performance liquid chromatography coupled with a diode-array detector.

J. Agric. Food Chem., 2005, 53, 5848-5852.

Soybeans (varieties Korada, Quito, Rita, OAC Erin, OAC Vision).

Daidzein, Genistein, Glycitein, Biochanin A, Formononetin.
45. **Kledjus, B., Vacek, J., Adam, V., Zehanaček, J., Kizek, R., Trnková, L., and Kubáň, V.**

Determination of isoflavones in soybean food and human urine using liquid chromatography with electrochemical detection.

J. Chromatogr. B., 2004, 806, 101-111.

Soybeans, Soy farina, Soy meat, Soymilk.

Daidzein, Genistein, Biochanin A, Formononetin.

46. Krenn, L., Untertiedler, I., and Rupprechter, R.
Quantification of isoflavones in red clover by high-performance liquid chromatography.
J. Chromatogr. B, 2002, 777, 123-128.
Red clover
Daidzein, Genistein, Biochanin A, Formononetin.
47. Lee J. H., Renita, M., Florito, R. J., St. Martin, S. K., Schwartz, S. J., and
Vodovotz, Y.
Isoflavone characterization and antioxidant activity of Ohio soybeans.
J. Agric. Food Chem., 2004, 52, 2647-2651.
Soybeans from Ohio (17 varieties).
Daidzein, Genistein, Glycitein.
48. Lee, S. J., Ahn, J. K., Kim, S. Y., Kim, J. T., Han, S. J., Jung, M. Y., and Cheng, I.
M.
Variation in isoflavone of soybean cultivars with location and storage duration.
J. Agric. Food Chem., 2003, 51, 3382-3389.
Soybeans from Korea (15 cultivars grown in Seoul, Suwon, and Kyongsan each in 1998,
1999 and 2000).
Daidzein, Genistein, Glycitein.
49. Liggins, J., Mulligan, A., Runswick, S., and Bingham, S. A.
Daidzein and genistein content of cereals.
Euro. J. Clin. Nutr., 2002, 56, 961-966.
Arrowroot, Pearl barley, Wheat bran, Corn flour, Maize meal, Oatmeal, Oatmeal quick
cook, Oats rolled, Sago, Semolina, Soy flour, Tapioca, Flours (brown breadmaking, self-
rising, granary, wholewheat, wholemeal), Wheat flakes, Rice – brown, raw and cooked;
long grain, white, raw and cooked; Pasta – lasagna, white, green, white, wholewheat;
Macaroni, Egg noodles, Spaghetti (white, whole wheat), Bread (brown, granary,
wheatgerm, wholemeal, white), Breakfast cereals (23 varieties), Biscuits (10 varieties),
Crispbread (rye, wheat, wholemeal).
Daidzein, Genistein.
50. Liggins, J., Bluck, L. J. C., Runswick, C., Atkinson, C., Coward, W. A., and
Bingham, S. A.
Daidzein and genistein content of vegetables.
Brit. J. Nutr., 2000, 84, 717-725.
Potatoes, new, raw and cooked; Potatoes, old, raw and cooked; Potatoes, red, raw and
cooked; Baked beans; Mung bean sprouts, raw and cooked; Broad beans, raw and
cooked; Butter beans, dried, raw and cooked; Chickpeas, dried, raw and cooked; French
beans, raw and cooked; French beans, sliced, frozen, raw and cooked; Haricot beans, raw
and cooked; Lentils, red, split, dried, raw and cooked; Mung beans, dried, raw and
cooked; Red kidney beans, raw and cooked; Runner beans, raw and cooked; Soybeans,
dried, raw and cooked; Miso; Textured vegetable protein, Peas, fresh, raw and cooked;
Peas, dried, raw and cooked; Peas, frozen, raw and cooked; Peas, canned; Split peas,
51. Liggins, J., Bluck, L. J. C., Runswick, S., Atkinson, C., Coward, W. A., Bingham, S.
A.
Daidzein and genistein content of fruits and nuts.
J. Nutr. Biochem., 2000, 11, 326-331.
Apples (cooking, raw and cooked; Cox, Golden delicious, Granny Smith, Red with and
without skin), Apricots (raw, dried, canned), Avocado, Banana, Cherries, Clementines,
Cranberries, Currants, Dates (dried), Figs (raw and dried), Fruit cocktail in syrup,
Gooseberries, Grapefruit canned in natural juice, Grapes (Black, White), Greengages,
Kiwi fruit, Lychees canned in syrup, Mandarin oranges canned, Mango canned and raw,
Melons (Cantaloupe, Galia, Honeydew), Watermelon, Nectarines, Olives canned in brine,
Oranges, Passion fruit, Peaches (raw, canned in heavy and light syrup), Pears (Comice,
Conference with and without skin), Pineapple raw and canned, Plums (Red, Victoria),
Pomegranates, Prunes dried and cooked, Raisins, Raspberries raw and canned, Rhubarb,
Satsumas, Strawberries raw and canned, Lemon juice raw, Orange juice, Almonds, Brazil
nuts, Chestnuts raw and cooked, Coconut raw and dried, Hazelnuts, Peanut butter,
Peanuts, Sesame seeds, Sunflower seeds, Walnuts, Pie fillings (canned black cherries,
black currants, red cherries).
Daidzein, Genistein.
52. Lin, P. Y. and Lai, H.-M.
Bioactive compounds in legumes and their germinated products.
J. Agric. Food Chem., 2006, 54, 3807-3814.
Black soybeans (4 varieties) and Soybeans (3 varieties) raw and germinated for 1 and 4
days.
Daidzein, Genistein, Glycitein.
53. Lin, F. and Fuisti, M.
Effects of solvent polarity and acidity on the extraction efficiency of isoflavones from
soybeans (Glycine max)
J. Agric. Food Chem., 2005, 53, 3795-3800.
Soybeans.
Daidzein, Genistein, Glycitein

54. Lu, L.-J. W., Grady, J. J., Marshall, M. V., Ramanujam, V. M. S., and Anderson, K. E.
Altered time course of urinary daidzein and genistein excretion during chronic soya diet in healthy males.
Nutr. Cancer, 1995, 24, 311-323.
Soy milk (Banyan Foods).
Daidzein, Genistein.
55. Lu, L.-J. W., Broemeling, L. D., Marshall, M. V., and Ramanujam, S.
A simplified method to quantify isoflavones in commercial soybean diets and human urine after legume consumption.
Cancer Epidemiology Biomarkers and Prevention, 1995, 4, 497-503.
Miso, Soy milk (Banyan Foods, Plum Flower), Isomil.
Daidzein, Genistein.
56. Mazar, W. M., Uehara, M., Wähälä, K., and Adlercreutz, H.
Phyto-oestrogen content of berries, and plasma concentrations and urinary excretion of enterolactone after a single strawberry-meal in human subjects.
Brit. J. Nutr., 2000, 83, 381-387.
Blackberries, Strawberries, Cloudberries, Raspberries, Lingonberries, Cranberries, Blueberries, Black currants, Red currants.
Daidzein, Genistein, Secoisolaricresinol, Matairesinol.
57. Mazar, W. M., Duke, J. A., Wähälä, K., Rasku, S., and Adlercreutz, H.
Isoflavonoids and lignans in legumes: Nutritional and health aspects in humans.
Nutritional Biochemistry, 1998, 9, 193-200.
Soy beans (Centennial, dry), Soy beans (INIAP, dry), Soy beans (Santa rosa, dry), Soy beans (Chapman, dry), Kidney beans (dry), Red kidney beans (dry), Pinto beans (dry), Navy beans (Haricot, dry), White kidney beans (dry), Lima beans (dry), American groundnuts (dry), Pigeon peas (dry), Chickpeas (Bengal gram, dry), Split peas (green, yellow, chana dahl, dry), Fenugreek, Broad beans (dry), Black gram (dry), Cowpeas (blackeyed peas, dry), Mung beans (green gram, dry), Peanuts (groundnuts, dry), Lentil (dry).
Daidzein, Genistein, Coumestrol, Formononetin, Biochanin-A, Lignans (SECO, Matairesinol).
58. Mazar, W. M., Wähälä, K., Rasku, S., Salakka, A., Hase, T., and Adlercreutz, H.
Lignan and isoflavonoid concentrations in tea and coffee.
Brit. J. Nutr., 1998, 79, 37-45.
Jasmine tea, Green tea (Japan).
Daidzein, Genistein, Coumestrol, Lignans (SECO, Matairesinol).
59. Mazar, W., Fotsis, T., Wähälä, K., Ojala, S., Salakka, A., and Adlercreutz, H.
Isotope dilution gas chromatographic-mass spectrometric method for the determination of isoflavonoids, coumestrol, and lignans in food samples.
Anal. Biochem., 1996, 233, 169-180.
- Granola candy bar (USA), 9-grain bread, Crisp bread, Finn crisp bread, Sunflower seeds, Country rye bread, Lapacho tea (Tacoma hepiaphylla), Flax seed, Soy flour (soyolk flour, Spillers, UK)
Daidzein, Genistein, Coumestrol, Formononetin, Biochanin-A, Lignans (SECO, Matairesinol).
60. McCann, M. C., Lin, K., Trujillo, W. A., and Dobert, R. C.
Glyphosate-tolerant soybeans remain compositionally equivalent to conventional soybeans (Glycine max L.) during three years of field testing.
J. Agric. Food Chem., 2005, 53, 5331-5335.
Soybeans (conventional and glyphosate tolerant).
Daidzein, Genistein, Glycitein.
61. Mitani, K., Narimatsu, S., and Kataoka, H.
Determination of daidzein and genistein in soybean foods by automated on-line in-tube solid-phase microextraction coupled to high-performance liquid chromatography.
J. Chromatogr. A, 2003, 986, 169-177.
Soybeans, Black soybeans, Field peas, Dried broad beans, Dried adzuki beans, Fermented soybeans, Tofu, Soy sauce, Soy milk.
Daidzein, Genistein.
62. Morton, M., Arisaka, O., Miyake, A., and Evans, E.
Analysis of phyto-oestrogens by gas chromatography-mass spectrometry.
Environ. Toxicol. Pharmacol., 1999, 7, 221-225.
Soybean hypocotyl, Coarse soya grit, Dragon soybeans, Dehusked soya bean cotyledon, Soybean hulls, Toasted soya hulls, Fine soya grit, ADM novasoy.
Daidzein, Genistein.
63. Müller, C. and Sontag, G.
HPLC with coulometric electrode array detection. Determination of daidzein and genistein in soy based infant food, soy milk and soybased supplements.
Eur. Food Res. Technol., 2000, 211, 301-304.
Soy milk, Soy based infant formula, Soybased supplements.
Daidzein, Genistein.
64. Müller, C. and Sontag, G.
Determination of some phytoestrogens in soybeans and their processed products with HPLC and coulometric electrode array detection.
Fresenius J. Anal. Chem., 1999, 363, 261-265.
Yellow soybeans, Soy flour, Soy granulate, Tofu, Soy cubes, Soy sausages, Soy sprout, Mung beans, Mung bean sprouts, Tofunaise, Soy dessert, Lecithine, Brain food.
Daidzein, Genistein, Biochanin A.
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Solvent extraction selection in the determination of isoflavones in soy foods.
J. Chromatogr. B, 2002, 777, 129-138.

- Soy flour, Tempeh, Tofu, TVP, Soy germ.
Daidzein, Genistein, Glycitein.
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Isoflavones in retail and institutional soy foods.
J. Agric. Food Chem. 1999, 47, 2697-2704.
Soy milk, Tofu different kinds (raw and cooked), Soy sauce, Miso (white and red), Tempeh (raw and cooked), FrChik (soy chicken, raw and cooked), Meatless frank (raw and cooked), Harvest burger (raw and cooked), Meatless links (raw and cooked), Soybeef burgers (raw and cooked).
Daidzein, Genistein, Glycitein.
67. **Murphy, P. A., Barua, K., and Song, T.**
Soy isoflavones in foods: Database development.
In: American Chemical Society Symposium Series, 701, 1998: Functional Foods: Overview and Diseases Prevention, ed. T. Shibamoto, 138-149.
Soy flour, Soy isolate, Soy concentrate (aqueous washed, alcohol washed), TVP (texturized vegetable protein), Soy fiber.
Daidzein, Genistein, Glycitein.
68. **Murphy, P. A. (Unpublished data)**
Green soy beans (Edam, dry), Soy beans (small Jade Black), Natto (DHA), Natto (fermented soy beans), Soy bean butter (full fat), Natto Kibun, Soy nuts (full fat), Soy nuts (plain halves), Soy flakes (white, not roasted), Green soy beans (Edam, fresh).
Daidzein, Genistein, Glycitein.
69. **Murphy, P. A. (Unpublished data)**
Isoflavones in soy-based infant formulas.
Infant formulas.
Daidzein, Genistein, Glycitein.
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Isoflavones in soy-based infant formulas.
J. Agric. Food Chem. 1997, 45, 4635-4638.
Infant formulas.
Daidzein, Genistein, Glycitein.
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Soybean isoflavones. Characterization, determination, and antifungal activity.
J. Agric. Food Chem. 1976, 22, 806-810.
Soybean flour (Wayne var-1969)
Daidzein, Genistein, Glycitein.
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Analysis of isoflavone content in tempeh, a fermented soybean, and preparation of a new isoflavone-enriched tempeh.
J. Biosci. Bioeng. 2005, 100, 685-687.
Tempeh (made from yellow soybeans, black soybeans, defatted-yellow-soybean-germ, isoflavone-enriched tempeh).
Daidzein, Genistein, Glycitein.
73. **Nakamura, Y., Kaihara, A., Yoshii, K., Tsunura, Y., Ishimitsu, S., and Tonogai, Y.**
Content and composition of isoflavones in mature or immature beans and bean sprouts consumed in Japan.
J. Health Sci. 2001, 47, 394-406.
Soybeans (Japan, China, Australia, U.S.A., Canada), Small black soybeans (China), Black soybeans (Japan, Korea), Green soybeans (Japan, Canada), Kidney beans (U.S.A.; Japan-dai-fuku-mame, uzura-mame, taisho-kintoki; Canada-kintoki-mame; Scarlet runner bean (Japan-shirohata-mame); Lima beans (U.S.A.); Butter beans (Myanmar); Saltpia beans (Myanmar); Yellow peas (Canada); Green peas (China); Red peas (New Zealand); Azuki beans (Japan-dainagon); Black mappes (Thailand); Green grams (China); Chick peas (U.S.A.); Broad beans (China); Peanuts (South Africa); Immature beans from Japan, (Soybeans, Black soybeans, Broad beans, Green peas, Green pea pods, Kidney bean pods); Sprouts (Soybeans, Green peas, Black mappes, Green grams).
Daidzein, Genistein, Glycitein, Formononetin, Biochanin A, Coumestrol.
74. **Nakamura, Y., Tsuji, S., and Tonogai, Y.**
Determination of the levels of isoflavonoids in soybeans and soy-derived foods and estimation of isoflavonoids in the Japanese daily intake.
J. AOAC Int. 2000, 83, 635-650.
Soybeans (Japan-Tsurunoko, U.S.A., Canada, Australia, China), Black soybeans (Japan, Korea), Green soybeans (Japan, Canada), Cooked soybeans (Japan), Cooked black soybeans (Japan), Roasted soybeans, Kinako (soybeans, black soybeans), Tofu (Kinukoshi, Momen, Yaki, packed), Freeze-dried tofukori-tofu), Okara, Tofu-derived processed foods (Astu-age, Utsu-age, Gunmodoki), Natto (soybean, black soybean), Miso (Rice-koji, Shiro, Akadashi mixed, Koji, salt-reduced rice-koji, Barley-koji, Soybean-koji, Kiraziji), Soy sauce-shoyu (Koikuchi, Usukuchi, Tost, Tamari, Sashimi, salt-reduced), Soy milk, Soy drink, Yuba (dried, raw).
Daidzein, Genistein, Glycitein.
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An investigation on the extraction and concentration of isoflavones in soy-based products.
J. Pharmaceutical and Biomedical Analysis, 1995, 14, 221-232.
Infant formulas: Isomil (ready to feed), Nursoy (liquid concentrate), Prosobee (liquid concentrate), Soy flours (Central soya - Soyafit), Centex, Promax, Promax plus, ADM - Nutrisoy, TVP, Acron-F, Acron-S, Cargill Protein Products -200/20, 200/70, Arrowhead, Molly farm, Sun Ridge Farm, Soy drink, Tempeh, Soy concentrates (Procon, Promine), TVP (Response).
Daidzein, Genistein.

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The composition of glyphosate-tolerant soybean seeds is equivalent to that of conventional soybeans.
J. Nutr., 126, 1996, 126, 702-716.
Soybean meal (A5403, Asgrow maturity group V, 1993).
Daidzein, Genistein.
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Liquid chromatographic determination of the plant estrogens coumestrol and isoflavones in animal feed.
J. Assoc. Off. Anal. Chem., 1984, 67, 503-506.
Defatted soybean meal and whole soybean meal in animal feed.
Daidzein, Genistein, Formononetin, Biochanin-A.
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Nutritional and health related compounds in sprouts and seeds of soybean (Glycine max), wheat (Triticum aestivum, L.) and alfalfa (Medicago sativa) treated by a new drying method.
Eur. Food Res. Technol., 2003, 216, 138-144.
Soybeans, Soybean sprouts.
Daidzein, Genistein.
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Quantification of isoflavones in soy milk and tofu from South East Asia.
Int. J. Food Properties, 2005, 8, 113-123.
Soy milk, Tofu (Soft, Firm, Silken, Chinese, Organic), Fried tofu.
Daidzein, Genistein, Glycitein.
80. Pratt, D. E. and Birac, P. M.
Source of antioxidant activity of soybeans and soy products.
J. Food Sci., 1979, 44, 1720-1722.
Soybeans, Corsoy var., Glycine max.
Daidzein, Genistein, Glycitein, Cinnamic acids (Chlorogenic, Caffeic, p-coumaric, Ferulic).
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Determination of isoflavones in commercial soy products by HPLC and coulometric electrode array detection.
Eur. Food Res. Technol., 2004, 219, 305-310.
Soy flour, Soy flakes, Soy milk, Tofu, Soy pie, Soy sauce, Soy sausage, Soy instant, Soy hot dog, Soy noodle sauce, Soy dessert, Soy meat.
Daidzein, Genistein, Glycitein.
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Germling characterization of zofino landraces (Phaseolus vulgaris L.) by flavonoid content.
J. Agric. Food Chem., 2004, 52, 3838-3842.
Zofino beans (Zofino A-Yellow seed coat, Querceto-Aezzo, Zofino B-tobacco seed coat, Zofino C-black seed coat, Zofino D-yellow seed coat).
Daidzein, Genistein, Flavonols (quercetin, Kaempferol), Anthocyanins (delphinidin, Petunidin, Malvidin).
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Fast analysis of soy isoflavones by high-performance liquid chromatography with monolithic columns.
Anal. Chim. Acta, 2007, 582, 243-249.
Soy flour, TSP, Soy fiber, Soy milk powder, Soy drink.
Daidzein, Genistein, Glycitein.
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Improved high-performance liquid chromatographic analysis of phenolic acids and isoflavonoids from soybean protein products.
J. Agric. Food Chem., 1984, 32, 530-533.
Defatted soy flakes, Soy protein isolates (Ralston Purina co.).
Daidzein, Genistein, some phenolic compounds.
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Exposure of infants to phyto-oestrogens from soy-based infant formula.
Lancet, 1997, 350, 23-27.
Infant soy formula: Nursoy (powder), Isomil (powder), Prosobee (liquid concentrate).
Total isoflavones
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High-performance liquid chromatographic analysis of phytoestrogens in soy protein preparations with ultraviolet, electrochemical and thermospray mass spectrometric detection.
J. Chromatogr., 1987, 386, 315-323.
Textured soy protein, Soy flakes, Prosobee (ready to feed), Isomil (ready to feed).
Daidzein, Genistein.
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Retention and changes of soy isoflavones and carotenoids in immature soybean seeds (Edamame) during processing.
J. Agric. Food Chem., 2000, 48, 6061-6069.
Edamame (5 varieties).
Daidzein, Genistein, Glycitein.
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Compositional analysis of glyphosate-tolerant soybeans treated with glyphosate.
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Daidzein, Genistein, Coumestrol, Biochanin A.
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Phytoestrogen content of foods consumed in Canada, including isoflavones, lignans, and coumestran.
Nutr. Cancer, 2006, 54, 184-201.
- Soy products, Legumes, Nuts and oil seeds, Vegetables, Fruits, Cereals and breads, Meat products and other processed foods, Beverages (non-alcoholic and alcoholic).
Daidzein, Genistein, Glycitein, Formononetin, Coumestrol, Matiresinol, Lariciresinol, Pinresinol, Secoisolaricresinol.
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Changes in isoflavone composition of soybean foods during cooking process.
Food Sci. Technol., 2000, 6, 314-319.
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Daidzein, Genistein, Glycitein.
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Isoflavone content of foods with soy additives.
J. Food Comp. Anal., 2005, 18, 533-550.
- Bread and grain products, Gravies and sauces, Meat and poultry products, Meat substitutes, Nutritional bars, Nutritional beverages, Peanut butters, Seafood products, Snacks, Soups and soup bases, Soybean products.
Daidzein, Genistein, Glycitein.
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Radical-scavenging activity and isoflavone content of sufu (fermented tofu) extracts from various regions in China.
Food Sci. Technol. Res., 2004, 10, 324-327.
- Sufu-fermented tofu (various regions of China).
Daidzein, Genistein, Glycitein.
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Changes of isoflavones during processing of soy protein isolates.
J. Am. Oil Chem. Soc., 1998, 75, 337-341.
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Daidzein, Genistein, Glycitein.
- Wang, H.-J. and Murphy, P. A.
Mass balance study of isoflavones during soybean processing.
J. Agric. Food Chem., 1996, 44, 2377-2383.
- Soybeans (Vinton 81, 1992), Soybeans (Vinton 81, 1993), Soybean flour, Products made in the lab - Tempeh, Soy milk, Okara, Tofu (momen or cotton, CaSO₄ coag.), Whey, Soy protein isolate, Defatted soy flour.
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Isoflavone content in commercial soybean foods.
J. Agric. Food Chem., 1994, 42, 1666-1673.
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Daidzein, Genistein, Glycitein.
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Isoflavone composition of American and Japanese soybeans in Iowa: Effects of variety, crop year, and location.
J. Agric. Food Chem., 1994, 42, 1674-1677.
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Daidzein, Genistein, Glycitein.
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A simplified HPLC method for the determination of phytoestrogens in soybean and its processed products.
J. Agric. Food Chem., 1990, 38, 185-190.
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Daidzein, Genistein, Formononetin, Coumestrol.
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Study on isoflavone isomers contents in Taiwan's soybean and GM soybean.
J. Food Drug Anal., 2004, 12, 324-331.
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Daidzein, Genistein, Glycitein.
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Isoflavone aglycon and glucosylated content of high- and low-soy U.K. foods used in nutritional studies.
J. Agric. Food Chem., 2002, 50, 1404-1410.
- High-Soy foods: (Spaghetti bolognese, Lamb stew, Turkey chili with soy and kidney beans, Baked soy and baked beans, Soybeans-red kidney beans and vegetables, Soy sausage and batter dish, Soy meatballs and spaghetti, Turkey and soybean casserole, Hazelnut soybean pudding, Chocolate soybean pudding, Soy milk drinks (Chocolate, Strawberry, Banana, Plain), Soy milk yogurts (Vanilla, Cherry), Vanilla soy milk dessert, Soy milk custard, Bananacake with soy flour, Soy sausages, Soy burgers, Soybeans. Low-soy foods (without added soy): some of the above, vegetable lasagna, Wholemeal

- bread, White bread, Apple pie, Sponge cake, Custard, Currant bun.
Daidzein, Genistein, Glycitein.
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LC/UV/ESI-MS analysis of isoflavones in edamame and tofu soybeans.
J. Agric. Food Chem., 2004, 52, 2763-2769.
Edamame (Taiwan), Soybeans (Minnesota and Iowa).
Daidzein, Genistein, Glycitein.
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Daidzein is a more bioavailable soymilk isoflavone than is genistein in adult women.
J. Nutr., 1994, 124, 825-832.
Soy milk powder.
Daidzein, Genistein.
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Effect of soybean varieties on the content and composition of isoflavone in rice-koji
miso.
Food Chem., 2007, 100, 369-374.
Soybeans from Japan and China, Rice-koji from different soybeans, Commercial rice-
koji.
Daidzein, Genistein, Glycitein.
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Changes in isoflavone contents during maturation of soybean seed.
J. Food Sci. Nutr., 1997, 2, 255-258.
Soybeans.
Daidzein, Genistein, Glycitein.
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Changes in isoflavone contents and composition of sufu (fermented tofu) during
manufacturing.
Food Chem., 2004, 87, 587-592.
Soybeans raw, Tofu, Sufu.
Daidzein, Genistein, Glycitein.